

BUFFOONUS  
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# SKIN DIVER

MAGAZINE

35c

January

1961

Acme



The SEA  
and the FUTURE



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BUYING  
GUIDE

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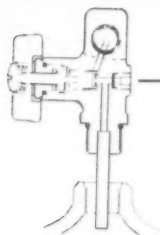
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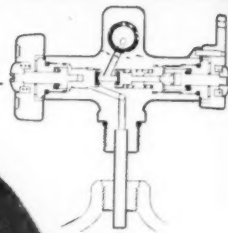
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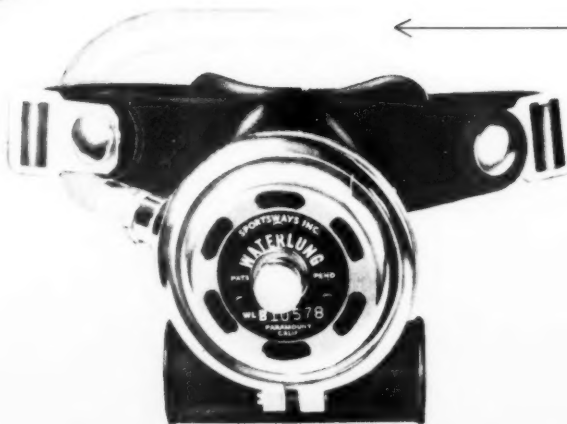
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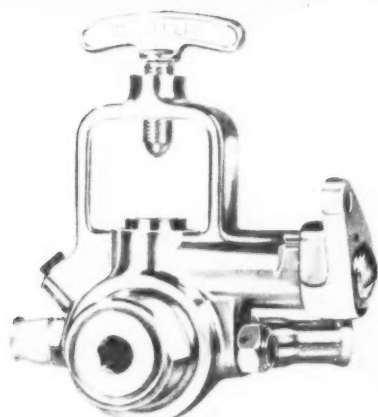
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# Skin Diver Magazine

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## cover

Gliding effortlessly along in the fantastic depths of the abyss far beyond the continental shelf, a futuristic diving device probes the mysteries of the ocean floor. Above are represented the daring men who are making this dream come true . . . today's scientist sportsman skin diver and an original, stone carrying sponge diver, whose thirst for underwater adventure and riches started man back into the sea.

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Jim Auxier, Editor; Connie Johnson, Associate Editor; Ross R. Olney, Associate Editor.

## Advertising:

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Devoted  
to the  
underwater  
world

## Skin Diver Magazine

is published semi-monthly for underwater enthusiasts to create a further interest in skin diving and underwater spearfishing; to aid and advance scientific research through underwater swimming methods; to encourage and promote all types of activities participated in and caused by underwater swimming enthusiasts and to provide an advertising medium for manufacturers, distributors and dealers of marine products. All manuscripts, photography and materials are submitted free and released for publication, becoming the property of SKIN DIVER MAGAZINE, unless previous copyrights exist. Authors and photographers should clearly mark all material submitted for publication so that credit may be given. The publishers do not necessarily agree with, nor stand responsible for, opinions expressed or implied by others than themselves. DIVING NEWS edition of the magazine appears on the fifteenth of each month as a tabloid newspaper and is circulated to paid subscribers in the United States and Canada.

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SKIN DIVER—January 1961

# Reader's Ripples



... I am making a visual report for my physiology class at school on "Skin Diving—Effects of Pressure." I am in need of pictures of skin divers underwater and some information about the effect of pressure. I have quite a bit of information so the pictures would be the greatest help.

I am interested in skin diving but there are very few people who dive around here. Since there are very few divers I took up surfing. I'm sure there are more people like myself and if you started a club there would be many more divers.

Juanita Hapke  
10 College Drive  
Ventura, California

... I have been receiving your magazine for one year and think it is the greatest.

Could you please answer a question that has been bothering me for some time?

What is the advantage of hard hat divers over scuba divers and why are they both used on salvage operations?

Saralyn Prowten  
35 Torrey Street  
Dorchester, Mass.

The advantage of hard hat over scuba is length of time down and greater depth. In some cases both are used on salvage operations for the above reasons and due to the greater freedom and mobility of the scuba equipped diver.

... I would wish that you could publish my name and address in your excellent magazine for the purpose of obtaining an exchange of correspondence with other readers on spearfishing, photography and, in general, to extend the knowledge of our countries.

Oscar Barrios M.  
Club de Deportes  
Sub-Acuatico "Delfin"  
Andres Viveros #2871  
Santiago, Chile

... I would appreciate it very much if you would settle an argument between my friend and I. 1. What is the deepest dive ever made with scuba? 2. Can you work at 150 feet without real difficulty with pressure? 3. What would be the estimated safe time down with two tanks of air? If you answer these questions in SDM it would save both my voice and my friend's.

Tony DeRose  
139 Garden Street  
Bensenville, Illinois

Tony, there is nothing SDM would rather do than save a fast friendship between two divers, but unfortunately your questions are just a bit too general for us to make any positive statements. However, we'll do the best we can. 1. Assuming you mean with regularly obtainable compressed air, E. Falco, A. Noville and C. Olgiati recently dived to 429.68 feet. Experiments are being conducted presently with other mixtures of gas (helium, nitrogen, etc.) with greater depths as a result. 2. Depending on your particular resistance to such things as nitrogen narcosis, the pressure itself at 150 feet would not affect your ability to work. 3. Again, "down" might mean ten feet or two hundred feet, between which there is a great deal of difference in "safe" time. Consult decompression tables.

... Lee Cote (August SDM Page 6) mentioned the fact that a white heel would stick out like a lighted sign spelling chow call to sharks. I use a closed heel fin for protection from the bottom but my face mask has a chrome band around it like 90% of all masks and I move my head around quite a bit. I know that the chrome strap shows through as much as an exposed heel and I have never heard of a shark going after that. I have dived in shark infested waters such as Okinawa, Japan, Philippines and Guam. In Guam I was in the middle of five sharks. I guess they were just curious as they left after about five minutes. Also saw sharks in the Philippines and Okinawa and have never had them bother me. Maybe I've been lucky, but I think a shark will attack because of his mood or how hungry he is.

Cpl. J. H. Buckholz, Marine  
U.S.S. Ticonderoga CVA 14

... I thought that you might be interested in an incident which occurred at Nags Head Beach, North Carolina, in August. I was there to dive for sheephead around the wreck Heron. I was on the beach with just a speargun when an angler yelled that he had caught a shark. It was soon evident that it was a large ray. He couldn't land it without breaking the line so I went into the surf and speared it in waist deep water. He turned out to be about five and a half feet from wing tip to wing tip. That same day we were chased from the water by a shark cruising in about four feet of water.

Tom Rose  
Virginia Beach, Virginia

(Continued on Page 7)

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71 cubic foot

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A single down payment . . . or your old motor in trade . . . puts you in command of a Starflite-powered rig. See all the '61 Evinrudes . . . from 3 to 75 hp . . . at your Evinrude dealer's now. He's listed in the Yellow Pages under "Outboard Motors."

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## Reader's Ripples



... I would like to call your attention to a very large error pertaining to the photo and description on page 23, November SDM.

While the death of this man is very regrettable, I think I can see what probably has happened. Judging from the photo the ends of the tanks are all that were blown out, and the high pressure tanks are intact. The two larger tanks that have been blown open are low pressure receivers and not for high pressure. The high pressure receivers are the two smaller ones on the outsides. These low pressure receivers are only intended for about 200 psi working pressure and should have had 250 psi safety valves. The fact that it took 2800 psi to blow the ends out shows the high safety margin. The high pressure receivers are for 3000 psi service and hydro test to almost 6000 psi and the bursting range much higher. They carry a 3300 psi safety valve normally. I doubt if the welding was defective. What has undoubtedly happened is someone swapped safety valves between the high and low receivers and possibly gauges. The receivers are clearly marked with danger and caution and as to high and low pressure sources and outlets, but evidently these were painted over.

If you doubt any of these points, contact the Worthington Corp. which makes that particular unit trailer. Ingersoll-Rand also makes one almost identical.

The equipment itself I don't believe should be condemned, but the factors as to operation and unfamiliarity, etc. I think it was very foolish to be towing such an item while in operation.

I think upon thorough investigation, that it would be found that tanks intended for 250 psi were charged to 3000 psi and resulted in the fatality. High pressure equipment is dangerous and must be used with caution, but it is a necessity to so many fields and to the scuba diver.

I just wanted to call your attention to this error and while a photo doesn't show all the story, I think you'll find I'm right as to what happened in general.

H. Helson  
Box 154  
Rialto, California

See Page 35

... I have just received the October issue of SDM and whilst not wishing to poke holes in Jim Oetzel's article on N.Z., I would like to point out the following errors lest anyone be led astray.

1. Whangarei, not Whrangerei.
2. John Dory (Zeus faber), instead of John Dorsies.
3. We do have restrictions in a mild form (they are not enforced on skin divers yet as far as I am aware and it is left up to the sportsman to act in a sportsmanlike manner in regards to the fish and crays).

I would be quite interested in answering any inquiries on N.Z. diving and swapping shells and marine specimens with those likewise interested.

P.S. It does not always rain in Whangarei!

J. G. McDonald  
105a Riddell Rd.  
Glendowie,  
Auckland, N.Z.

(Continued on Page 18)

SKIN DIVER—January 1961



Margaret Brummett, "Miss International Beach Temptress," relaxes on the beach near her home in LaPorte, Texas. In or out of diving gear, Miss Brummett enhances the beauty of any seascape.

(Photo by Bill Crawford)

Here's a diving lovely just waiting for one of you fellows to show up at her favorite lake. Miss Parkway isn't married and loves to dive. Sure wish we could remember the name of that lake!



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1. Attaching the entry blank provided below, or a facsimile, send your underwater photograph to NEMROD PHOTO CONTEST, Box 602, New Haven, Conn. All black and white photos must measure at least 5 by 7 inches. Do not send negatives. Transparencies must be 35mm or larger.
2. Send as many entries as you like. Entries must be postmarked no later than August 31, 1961. Entries will be returned if accompanied by a self-addressed, stamped envelope.
3. Prizes will be awarded as listed in this announcement. Entries will be judged by a panel of the following judges: (1) Joseph Jowaisas, Executive Art Director, Charles W. Hoyt Company, Inc.; (2) Elliot H. Kone, Director, Audio Visual Center, Yale University; (3) Coles Phinizy, Associate Editor, Sports Illustrated. Judges' decision final. Duplicate prizes awarded in case of ties.
4. Anyone in the United States and Canada may enter except employees of The Seamless Rubber Company, its affiliates, advertising agencies and members of their families. Entries must be original work of contestants. Contest subject to Federal, State and local regulations. List of winners available to those requesting same and enclosing a stamped, self-addressed envelope.

#### OFFICIAL ENTRY BLANK

Nemrod Photo Contest

THE SEAMLESS RUBBER COMPANY  
 Box 602, New Haven 3, Connecticut.

Here is my entry in the Nemrod Photo Contest. I have read the rules of this contest and agree to same.

NAME.....

ADDRESS.....

PHOTO TAKEN USING (check one)

☐ S.C.U.B.A. Equipment

☐ Skin Diving Equipment

## "aqua-master" regulator

There is one basic change for 1961 on the already superb "Aqua-Master" Regulator... a re-designed hose and mouthpiece assembly. The black neoprene hose, in its relaxed state, is shorter than the former hose, but there are more convolutions per inch, which provides much greater stretchability. This enables the diver to turn his head from side to side with complete freedom and with no pull on the mouthpiece.

The new streamlined mouthpiece is contoured to the natural curve of the face and of the hoses and fits snugly to the mouth. The mouthpiece is smaller and more comfortable, yet provides the normal flow of air to the diver without additional resistance.

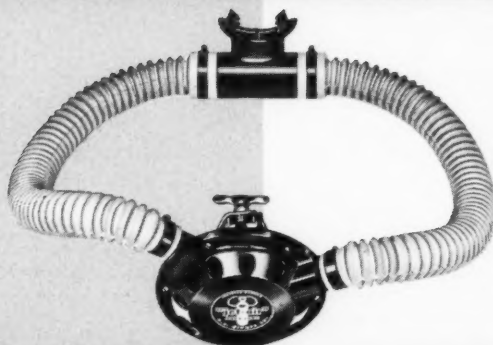
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Exclusive "Calypso" performance characteristics are:

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SPENT 20 MINUTES ON  
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AND CAME UP  
TICKING!



No idle claim, this . . . to test its famous water and pressure-proof Oyster principle, Rolex attached this Oyster Perpetual to the *outside* of the bathyscaph "Trieste" when it made a record dive into the Marianas Trench near Guam, on January 23, 1960.

The standard Rolex chronometer movement, in a special Rolex Oyster case, withstood pressures of over *six tons per square inch, maintained perfect accuracy throughout and after this grueling test!*

The same outstanding Rolex craftsmanship that produced the "bathyscaph" watch, (now in the Smithsonian Institution in Washington) is applied with equal effectiveness to the Rolex Submariner, available at Rolex jewelers everywhere, and relied upon by experienced skin divers the world over.

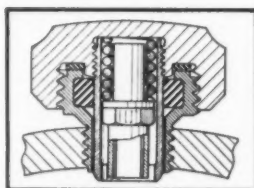


Diagram of the Rolex Oyster crown showing the two interlocking and self-sealing planes which slide together, assuring a completely water and pressure-proof seal.

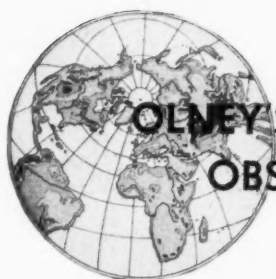
  
**ROLEX**  
OYSTER PERPETUAL

Send for free folder on the Rolex Submariner—write Dept. SCUBA, American Rolex Watch Corp., 580 Fifth Avenue, New York, N.Y.



**ROLEX SUBMARINER**—guaranteed water and pressure-proof to a depth of 660 feet\*, super shock-resistant, with self-winding 25-jewel certified chronometer movement. Revolving bezel registers elapsed time, hands and dial are extra luminous for utmost visibility in deep water. \$180.00 with bracelet, F.T.I. Also available 17 jewels, pressure proof to 330 feet, \$150.00.

\*With case, crown and crystal intact.



## OLNEY'S OVERSEAS OBSERVATIONS

Points of interest noted in foreign diving  
and fishing publications by Ross R. Olney,  
Associate Editor.

Yvan Vernier, a Swiss, and Chris Cooper, an Englishman, recently brought up an unusual find while diving 500 yards off Lipari, an island near Sicily in the Mediterranean. They were at ninety feet when they found a gaff with the name TERRY LENTZ printed on it in bold letters. The gaff of the 1959 World's Champion Spearfisherman is now the official weapon for landing large groupers on the Club Mediterranee's diving trips.

This has absolutely nothing to do with diving unless, since it appeared in The Underwater Club of Canada's official magazine, it concerns a diver on the job.

"Dear Sir,

On Tuesday I was sent to Job #824. On inspecting the building I found that the wind had displaced some of the bricks of the coping at the top, so I hoisted a couple of barrels full of bricks to the top. When I got through fixing the building, I had a lot of bricks left over so I hoisted the barrel up to the top again. I then secured the line at the bottom and then went up and filled the barrel with the bricks which were left over, and then I went to the bottom and cast off the line.

Unfortunately, the barrel of bricks was heavier than I am and, before I knew what was happening, the barrel started down and I was jerked off my feet. I decided to hang on and halfway up I met the barrel coming down and received a severe blow on the shoulder. I then continued up to the top pulley. When the barrel hit the ground it burst the bottom, allowing the bricks to fall out.

I was now heavier than the barrel and so started down again at high speed. Halfway down I met the barrel and received severe injuries to my shins. When I hit the ground I landed on the bricks, getting numerous painful cuts and bruises from the sharp edges. At this point I must have lost my presence of mind, because I let go of the rope. The barrel then came down and struck me another severe blow on the head which put me in the hospital for three days.

I respectfully request five day's sick leave," (The Under Current.)

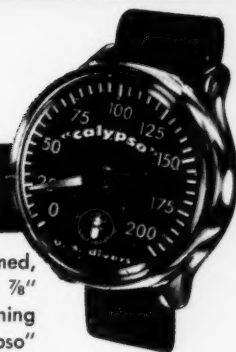


Polish diver Wojciech Wiewiorowski and two friends recently discovered and brought to the surface a perfectly preserved, hand hewn canoe which archeologists have dated as coming from early in the tenth century. The canoe is about 33 feet long and nearly three feet wide and in excellent condition. It, along with other artifacts, was discovered in 36 feet of water in the Lake of Lednoga near Gniezno, Poland.

Wiewiorowski plans further dives in an attempt to classify the many human and animal bones found in the area.



## "calypso" depth gauge



U.S. Divers designed with sleek, chromed, forged, brass housing, flat wrist design.  $\frac{7}{8}$ " Height. Bourdon tube-type with red warning markers at 140 ft. and 200 ft. The "Calypso" is an accurate, dependable and beautiful depth gauge.

7248 "CALYPSO" DEPTH  
GAUGE — 200 ft. .... 11.95

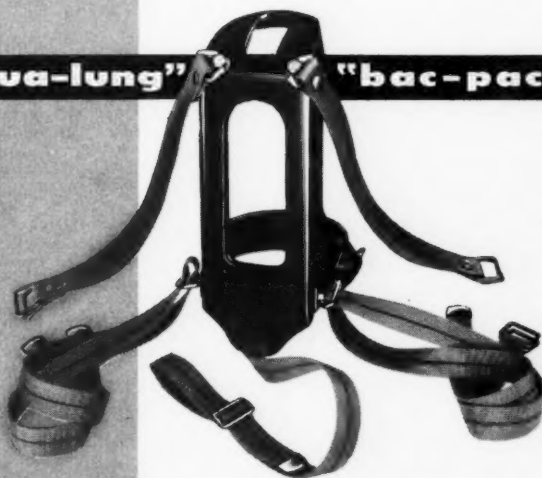
## "calypso" snorkel

A completely new concept in snorkel design. The mouthpiece of the new "Aqua-Master" snorkel is the most comfortable and efficient yet devised. Made to fit the various contours of the mouth much more closely than ever before, to give maximum comfort and fit in the diver's mouth. The tube will be slightly longer and with more flexibility to prevent fouling in marine growth. Weight of this snorkel has been reduced considerably to add to the comfort.



7309 "AQUA-MASTER" SNORKEL — Black ..... 1.95  
7310 "AQUA-MASTER" SNORKEL — Yellow ..... 1.95  
7312 "AQUA-MASTER" SNORKEL — Blue ..... 1.95

## "aqua-lung" "bac-pac"



The new "Aqua-Lung-Bac-Pac" is made of tough black cyclolac, impervious to salt water, sun and chemicals. Mounted on the tank with a single wing bolt. Wide shoulder straps of durable plastic, harness straps of strong quick drying web nylon. Hardware heavy chromed brass. Tank fits the back snugly without rolling, thus eliminating the need for a chest strap.

0811 "AQUA-LUNG-BAC-PAC" ..... 15.00

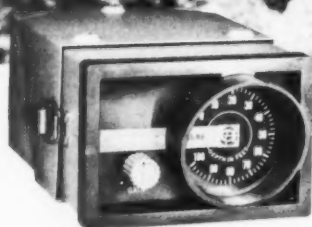
U.S. DIVERS CO. 3323 WEST DELHI ROAD • SANTA ANA, CALIFORNIA

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U.S. DIVERS CO.  
1916 West Columbia Ave.  
Chicago 26, Illinois

"AQUA-LUNG" OF CANADA  
800 Burlington St. E.  
Hamilton, Ontario, Can.

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## MS-8B Power Type DEPTH SOUNDER

an indispensable aid to skin divers

Add to your diving pleasure—and safety—with the MS-8B DEPTH SOUNDER.

Find that favorite reef again... check bottom conditions and depths before going down... locate sunken objects, schools of fish...

**POWER TYPE**... operates directly from your boat's battery for extra-power performance... gives brilliant, full-vision report of depths to 100 ft.

Indicator housing fits easily in the smallest boat. Is held securely in snap-clamp mount—can be removed—or reinstalled... in an instant!

MS-8B is brand new for 1961. Features rugged construction, dependable operation. Is fully treated for marine environment.

Compact... only 3 $\frac{3}{4}$ "H, 5 $\frac{3}{8}$ "W, 9 $\frac{1}{4}$ "D.

Complete with indicator unit, snap-clamp mounting bracket, transducer (choice of inboard or outboard type), 20 feet of shielded connecting cable.

**114.50**

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City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

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## DIVING DEALERS!



Homer Lockwood Photograph

SEE US AT THE N.S.G.A.  
CONVENTION AND SHOW

JANUARY 22-26

**SKIN DIVER MAGAZINE**

ROOM 775—PALMER HOUSE HOTEL  
CHICAGO, ILLINOIS



JIM AUXIER



JOHN GAFFNEY

Complete information on SDM  
and our new DIVING NEWS



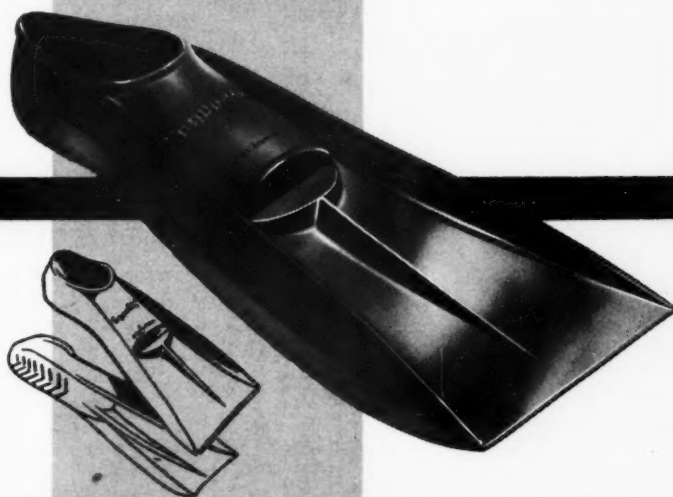


### "aqua-master" foot fins

Greater performance due to area and design of blade. Blade ribs extend back around heel area to give more firmness yet retain an extremely comfortable foot pocket. Offered in Blue floating rubber only.

**6040 "AQUA-MASTER" FOOT FINS,**  
Large 9-11 ..... 11.95

**6041 "AQUA-MASTER" FOOT FINS,**  
Giant XL 11-13 ..... 13.95



### "aqua-fin" foot fins

"Aqua-Fin" design provides perfect combination of power, comfort and beauty. Offered in highest quality blue floating rubber and in black non-floating rubber. The "Aqua-Fin" completes U.S. Divers fin line to cover all price levels and types of fins.

**6052 "AQUA-FIN" FOOT FINS** ..... from 8.95



### "aqua-lung" pro dive mask

A revolutionary concept in underwater vision... A Dive Mask with U-shaped, "wrap-around" tempered glass lens which provides complete unobstructed vision! The mask shirt, made of highest quality rubber with finely bevelled edge for perfect seal with or without exposure hood, provides a slanted lens for unobstructed view without neck strain during ascent. The chrome-plated, die-cast aluminum frame provides strength with lightness. The lower skirt, with built-in "Equi-Pressure" feature, permits pinching the nostrils when blowing to equalize the ears.

**5034 "AQUA-LUNG" PRO DIVE MASK,**  
black ..... 11.95



**u.s. divers co.**

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# buying AID 1961

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#1400

Now with body  
material of heavy  
duty 1/16"  
Aquala-ply.  
Front or Back  
Entry

Complete with extra  
large hood, knee  
patches, imported  
Japanese cuffs, extra  
heavy latex boots, re-  
lief tube.

### WEARS BEST!

"... even in heavy  
coral and heavy surf  
the Aquala #1400  
professional suit  
wears better than any  
I have tried in my 15  
years of professional  
diving."

C. S. McIntyre



GUARANTEED

## DIVING HOOD

Designed to reduce pressure prob-  
lems and ear troubles.

Keeps head dry, prevents water seepage  
into the ears, assists equalization of pres-  
sures in the ears and eustachian tubes.

### RELIEVES EAR TROUBLES

"... my husband is delighted with the  
Aquala Diving Hood and finds it such a  
joy to dive down to the bottom of the sea  
and get no water into his ears at all.  
Many thanks for your prompt delivery and  
please send another for my son. All you  
say about 'relieving ear trouble' is quite  
correct."

Mrs. Eileen Marsh  
Bermuda

## AQUALA SNORKEL

The original perfect design.  
All rubber.

## DRY SUITS

America's TWO most famous Dry Suits,  
front and waist entry.

## WET SUITS SHORTY SUITS ACCESSORIES

"AQUALA SUITS GUARANTEED  
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# SDM OPINION...

ONLY one fact seems to stand out clear in the fog concerning diving along Chicago's twenty-six mile lake front . . . it just isn't allowed.

Why diving is prohibited depends on which side of the fence you happen to be on, the divers or Chicago's Park District Administration. And their thoughts on the subject are violently opposed.

The Park Administration, for example, claims a true, if somewhat hidden, love for divers and all the sport represents. They want to protect the divers from themselves, and from the myriad dangers of our daredevil sport. Via long-distance telephone, SDM obtained the following reasons for the diving ban. "Too many drownings . . . too many divers being chewed up by boat propellers . . . the divers were not taught well in the first place . . . They should be confined to specific diving areas and have regular equipment inspection, but they won't cooperate . . . our rules are completely ignored . . ."

These statements came directly from a CPDA official. He further explained that in some cases diving IS allowed on the lake front. SDM immediately became more interested since we had been told that all diving was prohibited.

"We do allow firemen, police and lifeguards to dive since they have been trained according to our standards."

"What of rescue and body recovery work," was the next question.

"When we issue a general call for divers it always turns into a Roman Holiday, with nobody doing anything . . . so we don't do that anymore."

The solution . . . ? According to CPDA there first must be a set of rules and regulations which must not be ignored. These rules will set up periodic equipment inspection, they will make it necessary to carry a card showing the diver has had adequate instruction, and they will set aside certain areas specifically for diving.

There was one last question. "How far out into the lake do you control and what happens if a diver goes beyond that limit for his sport?"

The answer. "We control technically, all water up to 300 yards offshore . . . but our men will go beyond that to bring in a diver."

This was surprising. No simile is intended but we couldn't help thinking that the NKVD could doubtless pick up a citizen in Chicago's loop if that citizen was naive enough to allow it . . . or so cowed by the very name NKVD that he forgets their jurisdiction ends in Russia. Oh well.

The other side of the argument was interesting. Again by telephone we talked to Jim O'Brien, Chicago diver and operator of Aqua Hobby Den. In this capacity Jim is, of course, directly affected by the Park Administration's rulings. He was point-blank in his statements.

"They haven't figured a way to collect a fee from divers yet, as they have from everybody else who uses their water. When they do, diving will once again be allowed."

O'Brien went on to state that Chicago doesn't suffer even one loss of life per year from diving, and seldom if ever from a boat hitting a diver. He pointed up California's hundreds of miles of open coast line, and the low incidence of diving accidents. Money, he insisted, is the reason for the ban.

Ray Hogland, another well-known Chicago diver, wasn't quite as strong in condemnation of the Park District. According to Hogland, the problem is more one of apathy and lethargy, combined with a "why change things now?" attitude.

Several times an area has been selected for diving, then something happens and the idea is dropped. A diver is injured or drowned, a commissioner changes his mind, and soon the whole plan is forgotten. Present plans, according to Hogland, call for an area to be definitely opened in the spring. Hogland is doubtful.

(Continued on Page 80)



## You'd have to be a fish to be more comfortable!

The NORMALAIR Underwater Breathing Set lets you do everything a fish can do—and talk as well. This set is really the most—most convenient, most complete, most safe—because it's designed and manufactured by one of the world's largest producers of breathing and air control equipment.

Amateurs and professionals alike rate NORMALAIR tops for underwater safety and pleasure. Here are just a few of the reasons:

- **FULL FACE MASK**—for excellent vision, comfort and natural breathing
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- **CONVENIENT WEIGHT POUCH**—contains ten 1 lb. discs



### *Other standard features include:*

Wide-vision vizor • Quick-release harness mechanism • One-handed ballast adjustment • Fully adjustable harness  
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# I AM WANTED



## THE MOST WANTED 3/16" WET SUIT IN THE UNITED STATES TODAY

This suit is preferred by the experienced skin diver for its comfort and durability. It is styled with a contour set in sleeve to insure a positive fit with the highest insulating qualities. The jacket is constructed with a heavy duty zipper front. The zipper is made with an extra wide non-mildewing tape, DOUBLE STITCHED and POWER SEALED.

COMPLETE, 3/16" Double Skin Wet Suit, Full Zipper, Hood, Gloves, Jacket, Pants, Boots and Repair Kit. VALUE \$56.50.

**NOW ONLY \$47.95**

SPECIAL price for clubs. With orders of  
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J.M.F. Distributors & Manufacturers  
148 E. Boston Post Rd., Mamaroneck, New York

**SKIN  
DIVER  
MAGAZINE**

Semi-Monthly Publication  
Based in  
Irvine, Calif.

VOL. X, NO. 2

# DIVING NEWS

JANUARY 1961



104

ON JANUARY 5, 1961, a new publication will be handed over to the Post Office Department for delivery to "Skin Diver Magazine" subscribers all over the United States and Canada. Conceived in the minds of the staff of SDM, it has been in the planning stage for more than a year and is now ready to go.

"Skin Diver Magazine's" Diving News is a tabloid size newspaper and will not only be a semi-monthly edition of "Skin Diver Magazine" but will also be the official publication of Underwater Society of America.

The purpose of this new publication is two-fold and the combination of SDM devoted to the underwater world and DN to clubs and councils should be perfect. First, Diving News will bring up-to-the-minute diving news to divers quicker than is possible with a monthly magazine and second, it will bring to readers of SDM news previously not available. As the official organ of the Underwater Society, Diving News will print current club and council news, club calendars, council events and dives, spearfishing contest and results, stories and photo coverage of meeting and conventions as well as current local news from all over the country.

Features other than club and council news will be transferred from SDM for inclusion in Diving News. Classified advertisements will be carried in the new newspaper greatly expanded. For finding the diver who has a piece of equipment to sell that you wish to buy, Diving News will be ideal. Diver's Calendar, News Current (local), letters, pen pals, by-laws and constitutions of clubs, state laws and regulations including current changes and club rosters will be other features of the new publication.

Yes, and even a cartoon strip. "Jim Jigger," shown for the first time in the December issue of SDM, will become a regular feature of Diving News. Jim is an ex-Navy frogman and can find more action and adventure underwater, technically correct of course, than Tarzan ever found in the jungle.

A secondary, but important, result of Diving News will be the extra space in "Skin Diver Magazine" in the future. Room for more articles, more features, better photo coverage of diving events and stories from all over the world. With Diving News handling stories on competition, Underwater Society news and current news, SDM can carry more underwater adventure, science, oceanography, humor, fiction, medicine and its regular News Current feature.

Physically, Diving News will start as an eight page, 11½ by 15 in. newspaper. Naturally it will grow, as SDM has grown with its tremendous reader backing.

So here's what you'll have. Double the reading pleasure and technical information available before, current, up-to-the-minute news, greater local coverage, more advertising to help you find the right equipment, two complete publications with separate mailing dates, separate deadlines, separate news sources.

The staff at the SDM offices, from where Diving News will originate, has been doubled to handle the new publication. Experienced newspaper people will edit and report, layout and finally "put the paper to bed", all with an eye to making it the best newspaper in the diving

(Continued on Page 80)

SKIN DIVER—January 1961



# DIVERS' CALENDAR

- January 4**  
Competitive Spearfishing Committee, Roosevelt Park, Los Angeles, Calif., 7:30 p.m.
- January 6-7**  
Underwater Photographic Society national exhibition movies, black and white prints and color slides.
- January 6, 7, 8**  
Third annual Santa Clara Valley Boat, Travel and Sports show, Santa Clara County Fairgrounds, San Jose, Calif.
- January 11**  
Captain Jacques Cousteau underwater films, Bushnell Memorial Auditorium, Hartford, Conn., 8:15 p.m.
- January 14**  
Louisiana Council of Underwater Diving Clubs annual meeting and banquet, New Orleans.
- January 15**  
Metro Chicago YMCA indoor competition, Austin YMCA, 10 a.m.
- January 18**  
Los Angeles County Department of Parks and Recreation 10th Annual Underwater Instructors certification course.
- January 20-21**  
Fourth Annual Underwater Film Festival, Santa Monica Civic Auditorium, Santa Monica, Calif. Underwater Photographic Society.
- January 22**  
Northeast Council, Nubble Light tournament, York Beach, Maine.
- January 22**  
Illinois Council of Skin and Scuba Divers Inc. Divers certification (location to be announced).
- January 22-26**  
National Sporting Goods Show, Morrison Hotel and Palmer House, Chicago, Illinois.
- January 29**  
Illinois Council of Skin and Scuba Divers Inc. Expert diver certification (location to be announced).
- February 12**  
Conference of California Councils, Greater Los Angeles Council of Divers.
- March (tentative)**  
Second annual MAUC convention.
- March 25**  
Deadline for Illinois Council of Skin and Scuba Divers Inc. photography contest.
- July 15**  
Northeast Council, two-day second class diver certification seminar, Christmas Island, Weirs Blvd., N.H.
- August 23-25**  
National Scuba Triathlon finals, New Orleans.
- August 25-27**  
Underwater Society of America convention, New Orleans.

u.s. divers co.

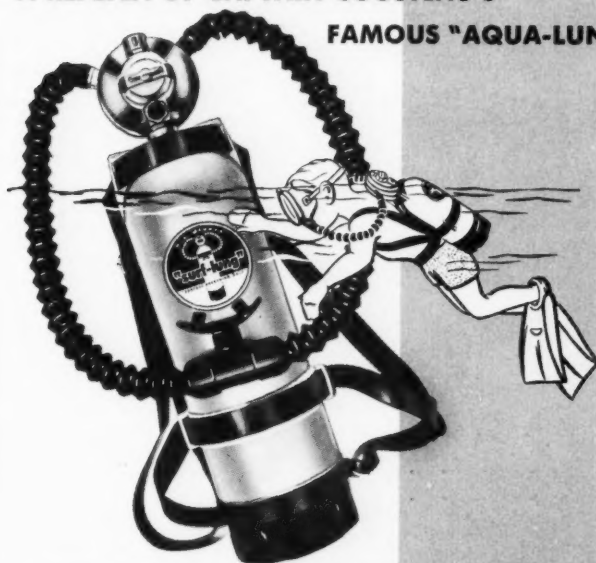
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FOR SURFACE BREATHING ONLY



A REPLICA OF CAPTAIN COUSTEAU'S

FAMOUS "AQUA-LUNG"!



"surf-lung"

- The "Surf-Lung" is a Float which helps you stay at the surface without effort.
- Equipped with an adjustable harness for a snug, comfortable fit.
- A special Non-Return Valve Snorkel built into the Regulator housing permits you to breathe with your face underwater and prevents water from entering the breathing circuit.
- You breathe through the mouthpiece just like the professional "Aqua-Lung" divers! The mouthpiece is equipped with a Non-Return Valve for easy clearing.
- With U. S. Divers' "Surf-Lung" and a good dive mask you can explore the sea beneath you for hours without taking your head out of the water. You breathe the pure fresh air! We recommend U. S. Divers' "Champion Jr.", "Squale Jr." and "Aquatic Jr." masks for best performance.
- To complete your fun, wear U. S. Divers floating "Aqua-Fins" or "Aquatic Fins" for greater speed and mobility.



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a new adventure in time...

## Zodiac Sea Wolf


Perfect for skin divers  
...perfect for you, the  
newest Sea Wolf has  
now been tested to an  
amazing undersea depth  
of 660 ft. It's waterproof\*,  
self-winding and ultra smart—  
**THE ADVENTURER'S WATCH**  
...IN OR OUT OF THE WATER!

- 17-jewel precision movement
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- large radium blocks and hands
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- unbreakable mainspring and crystal
- slim stainless steel case and band
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An Official Watch of the Swiss Federal Railways

\$100.00 Fed. Tax Included

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DEALER INQUIRIES INVITED



It's easy enough to get lost, even when you're skin diving in familiar waters. Don't take chances. Take along these dependable Taylor Instruments and you'll never be "at sea" about depth, direction or water temperature. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Ont.



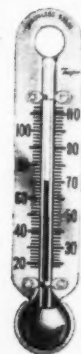
**Depth Gauge** has luminous figures, graduations and pointer. Gives readings in 5-ft. graduations to 140 ft. Accurate to within 2.8 ft. A universal favorite.  
#2059, \$10.95 retail.

**Compass** has big black arrow and luminous dial to help you find your way while below. Liquid-filled dome with leveling bubble. Sturdy neoprene case.  
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**Under-Water Thermometer** fits on wrist or belt. Easily visible Permacolor® fluid tells the temperature at a glance. Stainless steel scale, 5 inches long.  
#5282, \$2.50 retail.



\*Reg. U.S. Pat. Off.



**Taylor Instruments MEAN ACCURACY FIRST**

## Reader's Ripples



... I can't help feeling that Mrs. John H. Bogdon, in her letter in the September issue of SDM, has a few warped ideas. Why should a person be denied the right to dive with satisfactory equipment because of his (or her) age? The age of a diver actually has very little to do with the safety factor involved. As a matter of fact, young people have faster reflexes and are often able to think more clearly under strain than are older people.

I am 17 years of age and belong to a diving club (The East Hampton Dolphins) in which I am the oldest member. We have been using scuba for quite some time, and have had no mishaps whatsoever. We were careful to get adequate instruction before we started using our equipment, but, other than that, we have been completely on our own, with no adult supervision, and we like it better that way. We are now about to start work on a two-man sub. We are taking odd jobs this winter to help defray the cost of this project, and hope to have it completed by spring.

David Baker, Jr.  
14 Main Street  
East Hampton, N. Y.

... I have been stationed here at Montauk, Long Island with the Air Force for four years and I am familiar with the areas used for skin diving. If anyone is planning to come out here next summer and has not been out this way in the past, I will forward any information requested on diving areas available. Why spend time looking after you arrive when a letter beforehand will supply the necessary information? I can be contacted at the following address:

S/Sgt. Henry E. Smith AF 12290977  
773d Radon (Sage)  
(Box #78)  
Montauk, New York

... We have been presented with a gold placer property in the Yukon, Canada, which appears to have merit, and could best be proven by skin diving prospecting.

We would appreciate any suggestions or help you can give us in getting in touch with potentially interested skin divers who might want to seek their fortunes there next summer.

H. R. Cooke Jr.  
Cooke Everett & Associates, Inc.  
First National Bank Building  
Reno, Nevada

... A friend, a scuba buddy, and myself have read "Skin Diver Magazine" August issue, Gold Diving Bonanza. We're all packed and ready to go, but where do we start? If you could, we would appreciate any information concerning gold diving. We had plans on a February vacation in Arizona if there are places to dive. We have intentions of settling in Arizona eventually. If any readers have any information on gold diving in Arizona we'd sure like to hear from them.

Anthony Anania  
2618 N. Francisco  
Chicago, Illinois

(Continued on Page 22)

Man this THERMIC suit is

# WARM

-even in ice cold water!

"Your improved suit eliminates the shock of going into cold water. I am using Allen-A Insulair underwear under your suit and get no pinch or squeeze at depths of 35 to 40 feet. Water temperature at rock quarry is about 40 degrees."

W. R. Lake, Instructor

There's only ONE REASON why professional divers wear suits... that's to stay WARM! Improved Skooba-"totes" pure gum rubber plus thermal underwear holds body heat in... keeps cold out. Good underwear insulates, absorbs normal perspiration and minimizes "squeeze". With Skooba-"totes" you stay comfortable longer, even in freezing cold water. There is NO COLD SHOCK when you enter the water... NO EVAPORATION CHILL when out of water in cold wind.

## COMPARE! NO OTHER SUIT OFFERS SO MUCH FOR SO LITTLE!

• EASY TO PUT ON—even without talc, because Skooba-"totes" are made of a special smooth rubber. You can feel the difference! • NO SEAMS TO RIP! • TOUGH, hard to snag or tear! • DRIES IN SECONDS! • Won't absorb perspiration and ROT! • NO COLD SPOTS! Suit doesn't have to fit like skin to keep you warm. • STRETCHY for complete freedom of arms, legs. • CAN'T BIND! • IMPROVED, no leak at neck or waist! • No glue, no patchwork! • COMPLETE, READY TO DIVE—NOT a kilt! • 5 SIZES to choose from for a perfect fit for men and women. • WON'T PINCH when used with underwear. • 100% GUARANTEED!

## COMPARE WITH \$40 to \$60 SUITS

PROFESSIONAL SKOوبا-"totes" #2120-K includes one-piece shirt with attached hood; long pants with re-inforced feet in Blending Brown. Only **\$29.95**

(Shirt with separate hood optional #2020-K)

NOW SAVE **\$9.57** ON THIS ICE WATER DIVER'S SPECIAL!!

You get a \$10.00 2-piece suit of famous ALLEN-A Insulair thermal underwear for only \$5.88 with purchase of a Professional Skooba-"totes" suit, #2020-K or #2120-K.

**FREE** Order promptly and you also get a pair of \$3.50 Skooba-"totes" Diver's Gloves and a \$1.95 Waist Seal Ring. **TOTAL VALUE: \$15.45**—yours for only \$5.88 with purchase of Professional Skooba-"totes" suit.

**SEE YOUR DEALER NOW!** Offer may be withdrawn at any time. (If your dealer cannot supply—use coupon to get both your suit and the \$5.88 special promptly and postpaid.)



Mail to: SO-LO MARX RUBBER COMPANY  
Dept. SD 161, Loveland, Ohio

☐ I've purchased my Skooba-"totes" suit from my local dealer and am enclosing: This coupon, the box end, and check or money order for \$5.88. (Be sure box end shows factory size and style number marking.) Please send \$10 Allen-A Insulair Suit, \$3.50 Gloves and \$1.95 Waist Seal in same size as shown on box end, promptly and postpaid.

☐ My dealer couldn't supply Skooba-"totes" so I'm enclosing my check or money order for \$35.83. Please rush: \$29.95 Skooba-"totes" suit plus underwear, gloves and waist seal. Send Skooba-"totes" ( ) with hood separate or ( ) with hood attached. My Weight:..... Height:..... Chest:..... Waist:..... Shoe Size:.....

Your Name.....

Address.....

City..... Zone..... State.....

(COUPON)



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For Quality—  
Safety—Performance—  
Dependability—Economy  
**DACOR PRODUCTS  
HAVE NO EQUAL!**

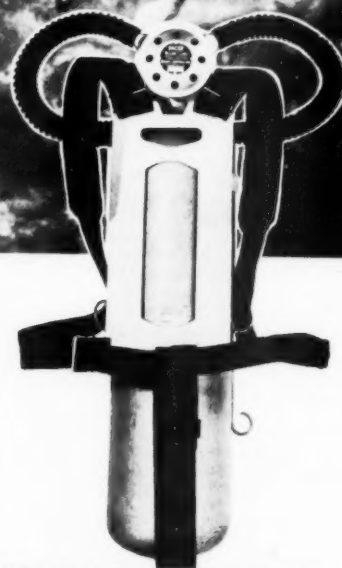


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PROVIDES THE  
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DOUBLE DIAPHRAGM  
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Compensating  
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**\$224.50**

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PROVIDES "Dial-A-Breath"  
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## Famous DACOR Diving Lung with the Spectacular New "D-PAK"

Dacor "D-PAK" — Scientifically  
designed in height and width  
to fit securely with absolute  
comfort.

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CAST ALUMINUM FOR MAR-  
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SHOULDER STRAPS.
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FOR EASY CARRYING.

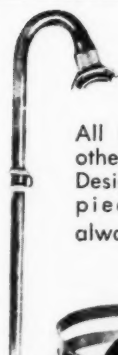
DACOR Single Tank Lungs NOW  
come complete with "D-PAK" at  
No Additional Cost!

**"D-PAK" ASSEMBLY**  
Sold Separately ..... **\$17.95**

Lung complete with Standard  
Valve ..... **\$144.50**  
Lung complete with Reserve  
Valve ..... **\$164.50**  
Regulator Only ..... **\$ 82.00**



# ...A COMPLETE QUALITY LINE



## SNORKEL

All Black rubber—Another Dacor "Comfort" Design! Molded mouth-piece retains shape always!

**\$1.95**



## MASK

Highest quality Blue rubber for true comfort fit and face seal. Wide tempered lens, slanted for greater visibility, has stainless steel retaining ring.

**\$4.95**



## DEPTH GAUGE

"Thin Line"—Less than 1" high. Heavy Brass case chrome plated. Thick Plastic sealed cover provides crystal clear visibility of luminous Dial. Soft Plastic Black Band. Accuracy Guaranteed within 2% at all depths. 100 and 200 ft. models.

**\$10.95**

## Underwater Watch

New! Sensational! Stainless Steel — 17 Jewel — Luminous Dial — Rotating Bezel — Non-irritating Soft Plastic Band. Guaranteed to 600 ft.

**\$45.00**

(plus 10% F.E.T.)



## FLOATING FINs

"Stream Line" — Lightweight. Highest quality rubber ever molded. Soft foot pocket provides comfort and snug fit. Narrow side and center rails give more propulsion area and require less effort.

COLORS—BLACK and YELLOW

SMALL (6-8) . . . . .	\$ 9.95
MEDIUM (8-10) . . . . .	\$10.95
LARGE (10-13) . . . . .	\$11.95



## KNIFE

"Heavy Duty"—Stainless Steel Blade with serrated top edge for sawing. Finger Grip Cork Handle with wide guard. Complete with Heavy Plastic Sheath.

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MANY OTHER  
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AVAILABLE



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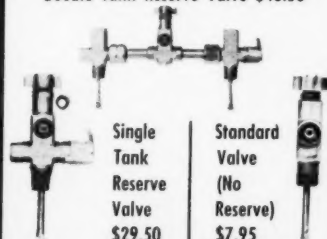
Proven to be the world's finest and most dependable! Heavy body—Yoke swivels for easy reading in any position!

"PGC" Deluxe model (with dust cap—chrome plated) . . . \$11.95

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**ONLY DACOR offers Depth Compensating Reserve Valves providing more reserve air at greater depths!**

Double Tank Reserve Valve \$46.50



Single  
Tank  
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\$7.95

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## MAR-VEL DIVING SPECIALTIES

### MAR-VEL MOTION PICTURE HOUSING



For underwater use, strong, good looking, cast aluminum housing that fits most 50' reel and magazine cameras, 8mm or 16 mm. Designed for depths to 100 feet, and with its easy handling, it can be a prized possession in recording wonderful experiences.



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A strong cast aluminum housing which will accommodate over 80% of all existing 35mm cameras. This housing will meet the needs of amateurs as well as professionals at low cost. Housing includes film wind and Trigger control. Additional controls and flash available at extra charge to special order.



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The only Scuba organizer. All your scuba gear mounts on this one single unit! Tank, regulator, weights, knife, and float, has a single buckle release. On or off in ten seconds. Hooks fold for easy storage.

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Of highest quality foam neoprene, skin two sides with exclusive power sealed seams. Nylon self-locking zippers in shirts and pants. Hood, boots, gloves, and repair kit included. Also available, "V" Line and one piece suits.



World's Largest Catalog On Diving... \$1.00

**M & E MARINE SUPPLY CO.**

P. O. Box 601 Camden 1, New Jersey

## Reader's Ripples



... When you started "Skin Diver Magazine" several years ago did you realize that it might someday play an important part in the construction of a multi-million dollar refinery in Hawaii? Probably not, so read on.

For the past eleven months I have been working for Bechtel Corporation as Superintendent in charge of marine construction at the 68 million dollar refinery being constructed at Barbers Point on the Island of Oahu. Primarily my work has been to help design methods of placing two miles each of 30' and 20' pipe line from shore to an underwater terminal in 80 feet of water off-shore. Also a suitable mooring area had to be prepared in the hard coral bottom of the ocean floor so that tanker anchors would hold the ship in position while the cargo was discharged ashore.

For the pipe lines we had to blast four thousand feet of trench through breaking surf to 25 feet of water. From there we bulldozed and graded the ocean floor clear of coral heads and made a smooth pipe-way 30 feet wide by 8 thousand feet long to the sea terminus. Next we stretched four miles of 2' diameter wire from the end of the pipe on shore out to and around a six ton pulling sheave and back to a pulling winch on the beach. The pulling sheave was secured to a 50 ton anchor set in a huge crater blasted and air lifted in the ocean floor. When all was ready it required ten days to pull 4 miles of pipe through trenches and along the underwater pipe-way.

Preparing the mooring area in the ocean floor in 70 to 90 feet of water involved the construction of 9,000 feet of trench 15 feet wide by 8 feet deep. These were in the form of a chevron pattern of eight trenches into which tanker anchors can drop and hold the tanker in place. This work required about 600,000 pounds of explosives and six months continuous underwater blasting. Scuba divers placed all the explosives and the helmet divers operated air lifts, jack hammers, and other heavy tools and equipment to remove the blasted material.

For the ten month period ending in October I used 4,500 man hours of scuba diving and about 2,300 man hours of helmet diving. Divers worked in breakers and in all types of water to a depth of 110 feet. Most of the hours were spent in water 70 to 80 feet deep. I used the Navy's new repetitive decompression tables and, for the helmet divers, the extreme exposure decompression tables. After mild twinges of bends symptoms developed in a couple of divers I changed the rate of ascent from the Navy's prescribed 60 feet per minute to the old 25 feet per minute and no further trouble was experienced. I feel the Navy's rapid rate of ascent was prescribed primarily as a military expedient where potential risk of bends was acceptable because treatment facilities were available. In commercial, and certainly in skin diving, a rapid rate of ascent is seldom necessary and I feel the diver will decrease the possibility of bends by using the slower rate of ascent. Above all a diver must keep in mind that there is no safety factor in

any decompression tables and that no such tables are infallible.

In the performance of our work on the pipe line job I used 6 scuba and 2 helmet divers. Equipment used included 1 large work barge, 2 anchor scows, 3 skiffs, 7 out-board motors, 2 air lifts, jackhammers, air compressors, underwater welding and cutting equipment, generators, 10 scuba rigs, 40 tanks, 4 underwater cameras, 1 underwater TV, 2 underwater scuba communicating devices, 2 Sea Tows, 10 underwater lights, 2 complete helmet rigs plus six spare dresses, two spare lengths of diver's air hose and ten (10) issues of "Skin Diver Magazine."

I consider "Skin Diver Magazine" one of the most important "tools" I had on this extremely interesting, complex, and difficult underwater job. Because of the complexity of the work, special diving equipment and underwater tools were often required. "Skin Diver Magazine" ads were my catalog and my sales pitch to our purchasing department. Without the illustrated ads I would not have been able, in many cases, to show exactly what I needed and would not have known a source of supply for the items.

In spite of being somewhat removed from California and all the diving activity on the mainland we know, thanks to "Skin Diver Magazine," what all our friends are doing and what is new in products in the diving world.

E. R. Cross  
Honolulu, Hawaii

... While perusing a training manual for skin diving which your publication recently highly recommended, I came upon a statement which, in my opinion, contains misleading information that can be dangerous. This statement was to the effect that one cannot get into a decompression problem with a single 70 cubic foot tank. A similar statement appears in a recent Fawcett skin diver handbook.

My understanding of the Navy diving manuals is that at sufficient depth a percentage of divers could get into a decompression problem with a single tank especially if the effects of several variables were additive.

Apparently the statement concerning the safety of a single tank is extracted uncritically from the Navy manuals which contain an unfortunate off hand observation of a graph showing average values. This is found on page 56 of USNSUSINST 1552.1 and page III-40 of the revised edition 1552.1A as follows: "The most striking features of this relation are that the single-cylinder scuba (60 minutes) does not allow diving into the decompression range until well beyond 100 ft.;..." which is a copy, except for the substitution of 130 for the more reasonable 110 ft., of page 213 of Submarine Medicine Practice NAVMED P-5054. Because this statement is so widely quoted out of context by civilian text writers, I believe that it ought to be properly discussed and evaluated. Perhaps then this statement might be deleted from future texts.

The reasons for objecting to this statement are as follows:

1. USNSUSINST 1552.1 page 51 or III-35, revised states that a 5% incidence of decompression sickness is assumed by the decompression tables. The graph on page 56A is based on those tables and thus also assumes a 5% incidence. This is not so stated on page 56 or 56A and is thus missed by many civilian text writers. When used in civilian texts this graph might be improved by depicting the 5% parameter because civilians do not have the efficient organization and specialized equipment

(Continued on Page 24)

SKIN DIVER—January 1961

## "non-terfoam" suits

U.S. Divers has perfected the "Non-Terfoam" fabrication process which places the four-way stretch, high tensile strength nylon jersey material on the inside of the suit with skin on the outside. The suit can be entered without the use of powder.

The tear resistance is far beyond the strength required to eliminate the age-old problem of tearing when standard foam neoprene materials are used.

**"NON-TERFOAM" SUIT with Hood and Boots. Yellow stripping.**

3013-(S); 3014-(M); 3015-(L); 3016-(XL) . . . 65.00

**"NON-TERFOAM" SUIT with Hood and Boots Black stripping.**

3001-(S); 3002-(M); 3003-(L); 3004-(XL) . . . 65.00

## "nordic" suits

3/16" foam neoprene, skin on both sides. Shirt with zipper at front and wrists and with removable tail. Pants with zipper at anklets, Hood and Boots.

**"NORDIC" SUIT with Hood and Boots—Yellow stripping.**

3086-(S); 3087-(M); 3088-(L); 3089-(XL) . . . 55.00

**"NORDIC" SUIT with Hood and Boots — Black stripping.**

3005-(S); 3006-(M); 3007-(L); 3008-(XL) . . . 55.00

## "icelander" suits

3/16" foam neoprene, skin both sides. Shirt with zipper and tail. Pants, Hood, Boots and Gluv Mitts included.

**"ICELANDER" SUIT with Hood, Boots and Gluv Mitts —Yellow stripping.**

3017-(S); 3018-(M); 3019-(L); 3020-(XL) . . . 51.50

**"ICELANDER" SUIT with Hood, Boots and Gluv Mitts — Black stripping.**

3009-(S); 3010-(M); 3011-(L); 3012-(XL) . . . 51.50

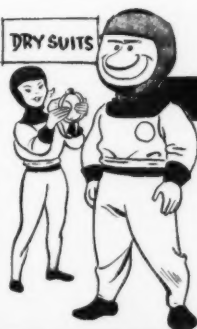


## foam neoprene suit kits

These kits consist of a sheet of foam neoprene material, blueprint with full-size patterns in sizes: small, medium, large and extra large, for cutting one complete suit (Shirt with snap-fastening apron, Pants, Hood and Boots) Includes 1/2 pint can of cement and complete instructions.

**3053 "POLAR" KIT 3/16" foam neoprene**  
(S, M, L, XL) . . . 44.95

**3034 "ARCTICO" KIT 1/8" foam neoprene**  
(S, M, L, XL) . . . 27.95



## dry suit kits

U.S. Divers introduces a new Dry Suit Kit to enable the diver to fabricate his own dry suit at a very nominal cost.

The kit consists of a sheet of Dry Suit Material, with finished hood, boots, and cuffs. Pint of glue, Ring and Rail, and complete instructions and patterns.

**3239 DRY SUIT KIT, Small—Medium . . . 19.95**

**3240 DRY SUIT KIT, Large—Ex. Large . . . 19.95**



**u.s. divers co.**

3323 WEST DELHI ROAD • SANTA ANA, CALIFORNIA

U.S. DIVERS CO.  
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Chicago 26, Illinois

"AQUA-LUNG" OF CANADA  
800 Burlington St. E.  
Hamilton, Ontario, Can.



# Reader's Ripples



(Continued from Page 22)

standing by to take care of this incidence of decompression sickness and therefore can not afford to take the same risks.

2. Another variable factor missed by the civilian text writers even though clearly stated in the Navy manuals is as follows: "The rate of consumption depends upon the divers respiratory minute volume (RVM) and upon the depth." Because of the great variability inherent in this statement the manual Assumes an air consumption rate of 1 cfm for the construction of the surface usage time to depth usage time ratio line on the graph. This consumption rate is what might be expected from an average diver engaged in moderate activity. It is clearly stated that: "Anything which causes the air supply to last longer than expected will increase the possibility of crossing the zero decompression line." Because of the variables inherent in this usage estimate and the influences of these variables on the one tank-safety-statement for many individuals, the Navy manual clearly recommends that each diver should have a good idea of his own average air rate use.

3. Few seem to have noticed that the Navy graph is based upon standard tanks filled to 2000 psi, while most diving tanks are now filled to 2250 psi. This is about a 12% factor which correspondingly increases the danger of a single tank and must be added to the curves on the graph. If the present trend to 3,000 psi tanks becomes general, then the statement concerning the safety of a single tank will need drastic revision.

4. In the text NAVMED P-5054 the differential solubilities of nitrogen in fat and water and with the resulting diving medical problems are clearly depicted. The Navy decompression table presumably is

based upon select, young, lean muscular, well-conditioned, male personnel while civilian divers represent all grades of physical conditioning and fat content. The fact that the Navy tables thus might not apply to the general population is not even considered by diving manuals available to me. In the interests of public safety this fact should be adequately discussed, evaluated and publicized.

5. It can be seen that many factors can alter the simple basic assumptions used to construct the Navy diving safety graph. Any individuals so constituted that some of these variables become additive in application will definitely be able to get into a decompression problem with a single tank. For such individuals double tanks then become doubly dangerous.

A diver used to be marked by his occupational disease (bends) but scientific research and knowledge reduced this hazard. Let us hope that this painfully accumulated knowledge is properly understood before the skin diving enthusiasts are set apart by their characteristic physical disabilities.

Wm. C. Van Arsdel III  
P.O. Box 131  
Corvallis, Oregon

... Your readers may be interested to know that from June to September inclusive in 1961, I shall be working on the salvage of an early Roman wreck, near San Antonio Ibiza.

You may have heard of my work at Epidauros (Refer: "1600 Years Beneath the Sea" by Capt. Ted Falcon'Barker, Published by Frederick Muller Ltd. 110 Fleet St., London and David McKay, New York Publishers.)

The vessel "Pagan II" is equipped with a high capacity compressor, also "Aqua-Lungs" etc.

In 1960 while carrying out an underwater archaeological survey of the Island of Ibiza for the Spanish Government, we came across the wreck in a reasonably sheltered spot, in approx. 75 ft. of water.

It is now proposed to scientifically raise the cargo, etc. (Many wine amphorae amongst other things.)

Any diver wanting an interesting holiday could apply to me at the below address.

Each diver to pay his own expenses. I have arranged through agents to arrange travel and hotel accommodations. (60°

Pounds Sterling for fourteen days.) From London.

The ship sails daily to the diving site (One hour from San Antonio) off an attractive Island, the water is as clear and as warm, as can be had in the Med.

Fish life is abundant as very little "lung" diving has been practiced in the area.

Capt. Ted Falcon'Barker  
Lista de Correos  
Ibiza, Islas Baleares, Spain

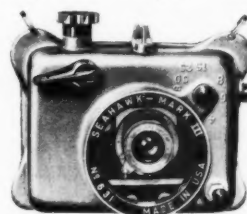


... I am enclosing a picture of two "bugs" caught off Okinawa by the Fathom Scratchers in June, 1960.

They are the biggest ever known to be caught in that area. I thought they might be of interest to you because of their large size. Each one weighed about 18 pounds.

Michael J. Miller  
Fathom Scratchers  
of Okinawa

When you're ready for the best



SEAHAWK  
UNDERWATER CAMERA CASES

Send 25c for catalog & underwater color slide

SEAHAWK PRODUCTS  
Box 1157, Dept. 2, Coral Gables, Fla.

NO MATTER  
WHERE YOU  
COME UP FOR AIR  
YOUR "NEREUS" PORTABLE IS RIGHT THERE. . .

The Radaelli engineers, of Milano, Italy, have developed a really fine air compressor. Operated by a gasoline powered engine, the "NEREUS" is light enough that you can take it any place you take your SCUBA. The "NEREUS" portable is a 'must' for every well planned diving trip.

See our display at NSGA Show, Booth P-109,  
Palmer House, Chicago, Ill.

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1018 CROCKETT HARTLINGEN, TEXAS



**new  
warmth,  
new  
comfort  
for  
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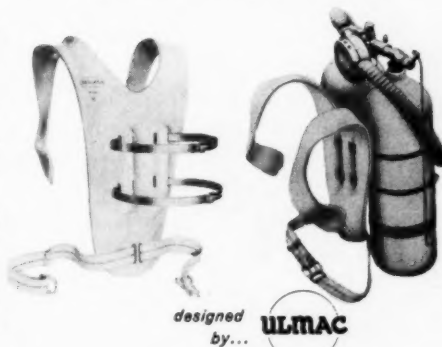
**N.S.G.A. Dealerst** See us at Suite  
796-797, Palmer House, Chicago.

**with B.F. Goodrich Koroseal 5-finger gloves and QUIKPAK® back pack**

Now you can have warm hands without the nuisance of cumbersome mittens. New BFG 5-finger gloves are molded of Koroseal sponge that insulates the entire hand by the same principle used in "wet" type diving suits. Light, flexible, contoured to fit, BFG Koroseal gloves have a tough, smooth skin to withstand the most rugged use. Available at a suggested retail price of only \$4.95 in four sizes. Choice of black or safety yellow.

For SCUBA comfort nothing equals the BFG Koroseal QUIKPAK back pack. Designed to fit body contours, this new tank carrier slips on in only 5 seconds. The carrier hugs your body, prevents tank from rolling or riding up. Single nylon waistband features quick-release safety buckle. QUIKPAK does away forever with shoulder and crotch straps that bind, cut, and chafe. Available in medium and large, designed for use with single, double or triple tanks. Choice of yellow or deep sea blue.

Koroseal—T. M. Reg. U. S. Pat. Off.



designed  
by... **ULMAC**

**Suggested retail price \$24.95 ea.**  
Distributors and dealers: Please contact Skin Divers  
Dept., The B.F. Goodrich Co., Watertown 72, Mass.

**SKIN DIVER GLOVES AND  
KOROSEAL QUIKPAK BY**





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Our Club has a wide  
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but all agree that  
SEA SUITS are best!  
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of men's and women's wet suits,  
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Distribution for Western Canada: Fred Martin Agencies, 121 Smith Street, Winnipeg, Manitoba

## World's Underwater Endurance Contest

As announced in the December issue of "Skin Diver Magazine," the world's largest portable diving tank will be used during the underwater endurance attempts at the Canadian National Sportsmen's Show on March 13, 1961. This tank, designed for Supreme Divers Co., 160 King St., E. Toronto, the sponsors of the event, is 27 feet long, 10 feet wide and 9 feet deep and has a glass viewing area of over 300 square feet.

Doctors, attendants and safety divers will be on hand 24 hours per day during the attempt and three complete air stations will be ready at all times to provide filtered air to the contestants.

Supreme Divers Co. is confident that the present record of 101 hours and 13 minutes will be broken by one of the contestants, all of whom must be past record holders to even qualify for the event. All previous underwater endurance record holders who wish to participate in the contest and who have not already applied should contact Supreme Divers Co., at the above address and give details of their record and when it was established.

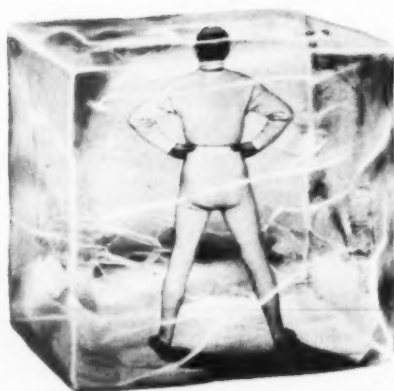
Prizes for the event will be two thousand, one thousand and five hundred dollars for first, second and third places and each contestant will receive a complete diving outfit valued at over three hundred and fifty dollars.

The contest is under the direction of Lou Singer of Supreme Divers and all inquiries regarding entry should be directed to him.

## Film Service Listings

Due to the constant demand of readers, "Skin Diver Magazine" would like to compile a list of films available to clubs and groups on either a rental or no-charge basis. Since they will be used for both entertainment and education, the films may be on any diving subject.

Anyone having films available can be listed by writing "Skin Diver Magazine," Lynwood, California. The completed list will be published in a future issue.



# Allen-A Insulaire®



"It's hot  
when it's cold"

**...costliest\* thermal underwear loomed**

**\*and worth it! In teeth-chattering water the few dollars you may save on an imitation garment won't keep you warm!**

Made of special fabric developed by the U. S. Navy for Arctic wear. Unique, waffle-weave construction keeps body heat in, cold out. Made of lightweight, combed cotton knit; won't itch, won't shrink. Contour shoulders for free arm action. Double knees. Extra long shirt-tail protects base of spine. Long sleeved shirt and ankle-length drawers: \$10.00 set.

Sizes for men or women. At your favorite dealers  
or write:



**ALLEN-A COMPANY, Dept S. D., Piqua, Ohio**

**QUESTION:** It is well known that an extensive striped bass fishery has developed along the central California coast, San Francisco Bay and the waterways draining into it, and in Coos Bay, Oregon, the result of plantings from the Atlantic coast in the late 19th century. Where else in the world is this fish found? Karl E. Carlson, M.D., Palo Alto, Calif.

**Answer:** The striped bass is a common fish along the Atlantic seaboard from the St. Lawrence River in eastern Canada to the St. Johns River in northeastern Florida. It is best known between the sound region of eastern North Carolina, on the south, and Cape Cod, on the north. It is not native to any other region except for the northern coast of the Gulf of Mexico. The fish was introduced into the west coast waters of the United States from the Navesink River in New Jersey.—Sea Secrets.



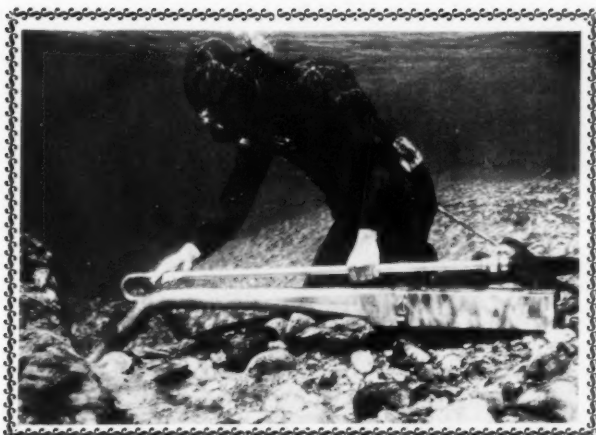
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Model 3-DH lightweight dredge with  
hookah type compressor. Ample air for  
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<b>ENGINES</b>	GAS OR DIESEL	•	<b>PUMPS</b>	WATER SAND - GRAVEL
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Model 8-DH lightweight  
electric starter  
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The success or failure of any mining operation depends, to a large extent, on the equipment used. A sizable sum has been invested in the design and fabrication of our underwater recovery systems. Each piece of equipment has been thoroughly field tested, assuring the prospective user of high performance and maximum recovery.

## International Underwater Spearfishing Association

# WORLD RECORDS

*Common name:* Yellowtail.  
*Scientific name:* *Seriola grandis*.  
*Weight:* 62½ lbs. *Where caught:*  
Tweed Heads, N.S.W., Australia.  
*Date:* 1959. *Diver:* Ben Croop.

The International Underwater Spearfishing Association has recognized the claim of Ben Croop for a World Record on Yellowtail (*Seriola grandis*).

This is the giant Yellowtail that leaped into prominence at Bermagui, Australia, and received more notice than usual at the time that Zane Gray was fishing Australian waters.

Similar in many respects to the Pacific Amberjack, which in Mexico is called *Pez fuerte* (strong

fish), the Australian relative is called Samson fish by the divers down under.

Ben Croop states that "the fish was sighted in about 50 ft. of water one mile from shore. A ski was used and the fish gave a very long, hard tussle, taking about 15 to 20 minutes to land."

Data on the Mediterranean Yellowtail is still incomplete, therefore we will move to the Wrasse or Giant Parrot Fish in the next release. However, at the World Skin Diving Championships in Italy, an attempt was to be made to pinpoint one of three similar Mediterranean species as the outstanding Yellowtail from that area. 🐟



Ben Croop and record 62½ lb. Yellowtail.



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Proved Shark Chaser packet is made to military specifications to drive away sharks. **For survival and protection this product is vital to every diver!**

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*World's Largest Packagers of Ocean-Coloring Dyes*



# INTERNATIONAL TREASURE HUNT

By JIM HAYES

**T**HE FIRST International Treasure Hunt for skin divers proved to be a treasure in more ways than one to the intrepid group of over 60 who made the initial trip this year.

Sponsored jointly by Caribe-Aqua Association and U. S. Divers Co., the hunt sought to bring divers from the lakes, rivers and bays of the continental United States to the exciting underwater world of the Caribbean off the coast of Puerto Rico.

Divers from Ohio, Connecticut, New York, New Jersey, Pennsylvania, Texas, Canada and even Argentina joined in the international affair, headed by Captain Vernon F. Land, president of Caribe-Aqua.

After a smooth flight from New

*(Continued on next Page)*



Miss International Treasure Hunt, Carol Lee Hart of New York City, holds the key to the whole situation.

## **PRO** for '61... new models, new features



PRO-61 "Pressure-Equalizer"  
Mouthpiece-Regulator System

PRO-61 Treasure Chest



PRO-61 Custom  
(upright)

PRO-61 Reserve  
(inverted)

PRO-61  
Standard  
(inverted)

Go PRO-diving! It beats ordinary "scuba" diving all ways. Once you go PRO, no other will do. Scientific test and diver-data alike prove PRO superiority in practically every important performance function. That's why all major "lungs" attempt to copy its efficient single-hose principle. See how PRO "factory-to-you" offer saves you 1/3 or more. Send for FREE tell-all "Catalog-Manual", now.

**ROSE AVIATION, INC.**  
BOX 111, AURORA, OHIO



Group boards plane for trip to tropics.

York's Idlewild Airport via Trans-Caribbean Airways, the group was whisked to the plush El San Juan Intercontinental Hotel, where truly luxury accommodations awaited all hands.

An ice show in the hotel night club, a special aqua show in the pool, rum



Carol Hart and Ruth Kurtz record numbers on keys.

parties and buffet dinners were only a small part of the accommodations provided for the tour members.

A 30-foot catamaran was made available for the entire week, and with a schedule of two 4-hour trips a day, the crew had scarcely a chance to eat. Captain Land, Leonard "Red" Raisch, Tony Barker, and Jim Hayes made sure that the compressor filled the never-ending demand for air, and that all the business and social aspects of the operation went smoothly.

On the second day of the tour, a five foot moray, and a 250 pound manta ray were added to the trophies acquired on the trip, which by then included a couple of monumental cases of sunburn. Several of the divers resorted to swimming fully clothed, and others relied on dancer's leotards to protect them from the tropic sun.

Diving conditions throughout our stay were ideal, and at a depth of 65 feet, you could see approximately 75 feet. The underwater gardens off Boca de Cangrejos made a perfect diving spot, full of eye-filling coral and beautiful fish of every description.

The actual treasure dive was conducted in a secluded cove in deep water for the "pros" and shallower fare for the neophyte divers in the group.

Numbered "Gold Keys" were buried at varying depths; each diver limited to two keys.

Later, at the hotel, the numbers were tallied, and each diver received the prizes that matched his numbers.

Underwater watches, Aqua Master, Mistral, and Aqua Matic regulators, depth gauges, fins, backpacks, Kidde tanks, and Crossman air guns made up the bulk of the "treasure," valued at over \$5,000.

All agreed it was a thrill-packed six days, with perhaps the clear, blue water being the biggest treasure of all, and the most frequently asked question was, "When is the next tour?"

Captain Land's reply will be familiar to Brooklyn Dodger fans . . . "Wait 'til next year." ➤



Time out for a group portrait.

IT'S BEING COPIED BUT NOT

DUPLICATED

7 years of wet suit manufacturing with thousands of satisfied customers . . .

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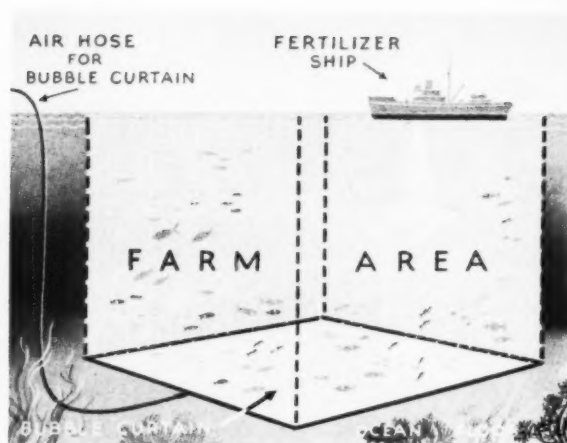
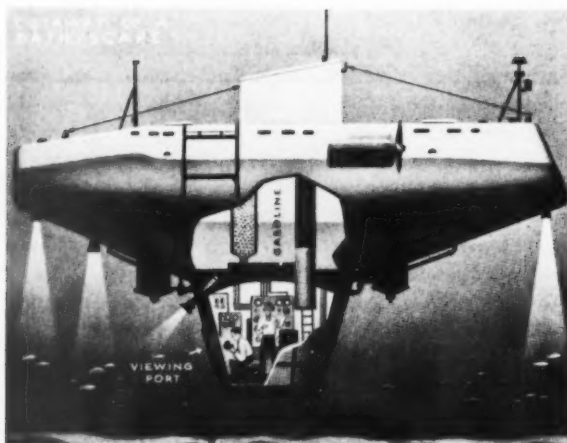
**DIVE N' SURF 504 N. BROADWAY**



## DESIGN

(Closed Tuesdays)

**Redondo Beach,  
California**



# The Sea and... THE FUTURE

By  
ROSS R. OLNEY

*Based on "The Challenge of the Sea"*  
by Arthur C. Clarke

*Published by Holt, Rinehart & Winston*  
*Illustrations from book*

GAZING out across the surface of the sea on a calm, warm day, gentle waves winking and rippling in the sunlight as they brush the soft sand of the beach, wavelets hissing softly back and forth, makes it difficult to believe the truth. In the depths of this sea dwell both the smallest and the largest of living things. This same sea can be violent and cruel, tossed by storms and earthquakes into a raging frenzy far more powerful than anything yet conceived by man. On its surface still travels the largest part of the world's international trade. It provides food and drink for man, all the while hiding a great percentage of his wealth in its silent depths.

Wealth in treasure lying undiscovered in the bowels of millions of sunken hulks from ancient Roman galleys to turbine-powered liners. And even more important wealth. For the sea first gave us life and in its depths, while land areas wither and die, are enough raw materials to supply the needs of man for another million years. This is the major importance of the sea . . . and its future is linked irrevocably with our own.

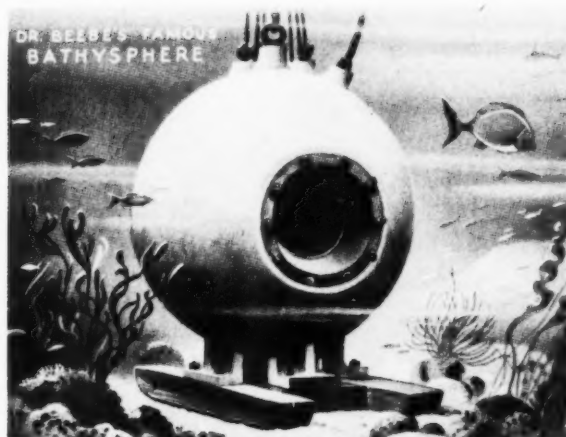
Man is turning back to the sea because he must. Already a third of the human race does not get enough to eat, yet each day another hundred thousand new humans come into the world. For twenty thousand years man has

farmed the land . . . now the land is old and tired and growing more and more non-productive. For treasure, for pleasure, and for his very life, man is once again studying that which covers over three-quarters of the earth he knows.

First he mapped the great bodies of water, calculated, sailed, studied until he knew their true size and shape. This was done in the nineteenth century. For a period of time following that he was satisfied. After all, what did depth matter? His fishing lines were not nearly long enough to touch bottom, his nets were used only in shallow water, so what difference did it make if the bottom was one mile or one hundred miles down?

It probably made no difference, until the invention of the electric telegraph, the advent of underwater warfare, the discovery of off-shore oil deposits, the realization that the sea would become ever more important in the sustaining of his own life. So he dropped weighted lines and began to crudely map the ocean floor and when he found this to be unsatisfactory he invented the echo sounder. He learned that a signal transmitted from the bottom of his ship would bounce off the sea bed and return, and that the difference in time told him the absolute depth accurately. He discovered the continental shelf, the slope and the





unimaginable depths of the abyss. Wrecks could be plainly marked with his echo sounder, even schools of fish easily discovered. Mountains higher than any he had previously known were found, great trenches deep enough to hide the largest of his own land canyons. He found an area in the Pacific off the Marianas over thirty-six thousand feet deep . . . so deep that Mount Everest could be placed into it and its summit would still be a mile below sea level.

He found that the ocean bed contains even more varied scenery than dry land; its mountain ranges are longer and higher, its canyons wider and deeper.

He found the oceans enormous, wonderful . . . and even terrifying. He found 300 million cubic miles of water, and every drop abounding with myriad forms of life unknown to him before. And he knew that his conquest of the oceans, his struggle to force these giants to provide him with life, was only beginning.

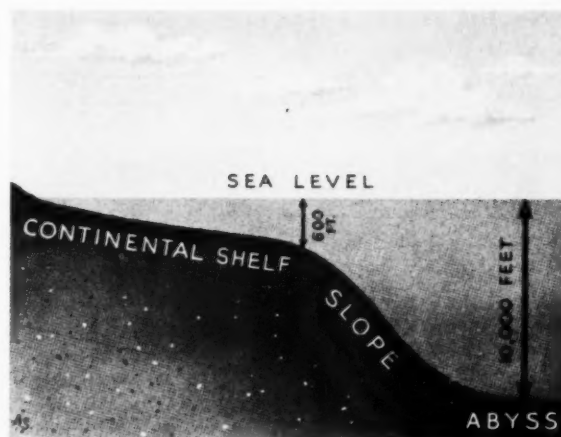
Progressing side by side with the mapping of the ocean floor by lines and echos were brave men who dared venture into the unfriendly depths with different types of diving equipment. At first on lung power alone, and then diving suits, bells, scuba, and the depth record was pushed ever downward. Some lost their lives in this attempt to conquer the ocean but the struggle went on in the blackness. New aids were invented . . . powerful headlights to puncture the gloom, submarine motor bikes to pull them effortlessly, diving machines such as the bathyscope and bathysphere to enable them to withstand the tremendous, bone crushing pressures.

Man began to learn of the food chain of the sea and what it meant to him. He discovered the microscopic animals which provide food for every living thing in the ocean . . . and the plants which provide them food. He named this basic food "plankton."

When man eats fish, he is eating plankton at the end of a food chain which looks like this. Plankton plant is eaten by plankton animal which is eaten by herring which is eaten by tuna which is eaten by man. So man, in the end, is being nourished by the same tiny creature which nourishes all forms of life in the sea.

Deserts in the ocean, completely lacking in plankton and thus in fish, were discovered. Immediately man thought of fertilization such as the artificial irrigation of our own surface desert regions. To add the proper chemicals which with sunlight would produce plankton would naturally result in an increase in fish population . . . and more food for man himself.

Another possibility came into view and was experimented with. The unfortunate fact was that to gain one pound, man must eat ten pounds of tuna, for example. The



tuna must have eaten 100 pounds of sardine to provide man with the one pound. And it goes on. The sardines ate 1000 pounds of plankton animals which have eaten 10,000 pounds of plankton plants. All to provide man with one pound of weight, the sea has had to produce some five tons of living material.

And so the experimentation. It is simple arithmetic that, if we could exterminate all the tuna and catch instead the sardines which they would have eaten, we'd have ten times as much food . . . and ten times as many people could live on earth. Taking the experiment a little further, we could eliminate the sardines and catch all the plankton animals they would have eaten and then, assuming that man could eat plankton, we'd have food for one hundred times as many people. And finally by eliminating ALL the animals and, in theory of course, eat nothing but plankton plants, a thousand men could eat for every one who dined on tuna.

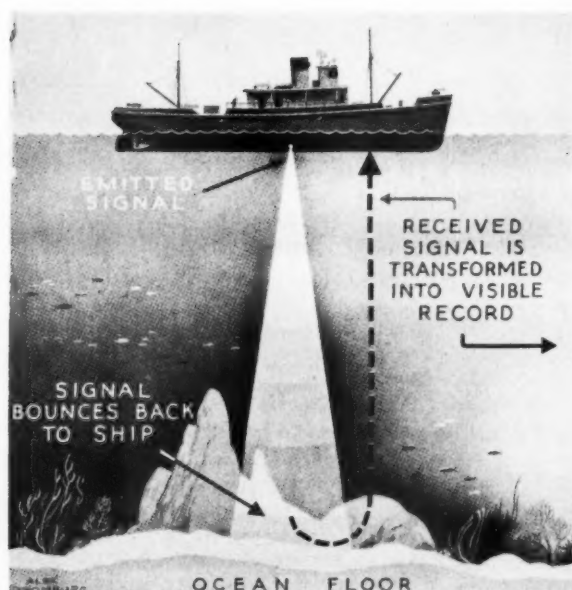
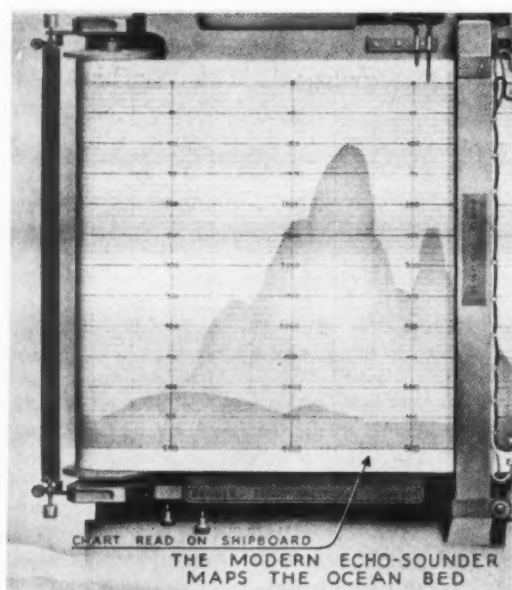
Whether you like tuna or not, whether you would not care to eat plankton exclusively or not, doesn't alter the fact that by shortening the food chain, we can feed many more people. But there are, of course, arguments. Suppose, for example, it takes ten pounds of grass to put one pound on a cow. We might then decide to shorten this food chain to increase the food supply . . . kill all the cows, thus removing the middle man. But we can't eat grass, even though otherwise the idea is a good one.

And so the research goes on, and man's struggle to conquer the ocean, to force it to provide him with life goes on.

The ocean not only holds food for men of the future. It also holds at least a trace of every chemical known to man, some in large quantities. Let's say you take a hundred pounds of sea water and heat it in a pan. When the water boils away you would be left with about three pounds of dirty white crystals, of which a little more than two pounds would be common salt . . . sodium chloride. The remaining pound would be a very complicated mixture containing every element you care to mention, including such rare materials as gold and radium.

How much gold, silver, radium and other precious metals? Enough to warrant extraction? Well, let's take one single cubic mile of sea water. Can you guess how much one mile of water weighs? A thousand tons . . . ? A million . . . ? The right answer is something like four billion tons. If you could boil that water away you would be left with a hill of salt weighing about 150 million tons. There would be about eight million tons of magnesium sulphate. There would be sixty thousand tons of strontium all the way down to a fraction of an ounce of radium. Near the bottom of the list, but still in appreciable amounts, would be the precious metals. According to

(Continued on Next Page)



some experts, there should be as much as twenty-five tons of gold and forty-five tons of silver.

And when you consider that we are discussing the contents of a single cubic mile of sea water, and that there are over 300 million such miles in the oceans of the world, it becomes obvious that the mineral wealth of the sea is beyond imagination.

Attempts are now being made to mine, or extract, some of this wealth . . . and slowly success is nearing. The struggle goes on.

Science has a great interest in the floor of the ocean. By tapping, that is taking out long plugs inside specially made pipes, a story of the history of man is before our eyes. For countless centuries the dust and remains of man and his machines have settled both on the earth and the surface of the ocean. On land it has been disturbed, changed and washed away by rains and plowed under and blown up. But in the ocean it slowly settles to lie undisturbed, building upon itself until it becomes a perfect history book of the birth of man and his planet. So far we have only scratched the surface of this history, but day by day we go deeper and deeper until, eventually, it is hoped that man can discover his own beginnings . . . and even before. One

day we will drill into the abyss and actually break through the crust of our world.

The oceans are the future of man, as they were in the very beginnings of time his past. As the oceans once gave life, they will be called upon to give life once again. Underwater farms are not uncommon today and in the future will come fertilization of arid areas with plankton producing chemicals, great herds of whales, domesticated as our cattle are now. Air bubble fences will hold them, and other marine life, in, and hold predators out. "Electro-fishing," or directing fish into nets or suction pipes by electricity, will become common. As our land dies, the sea will take over, giving its great natural resources to sustain man.

The sea will also become a playground for man. Great underwater hotels are a thing sure to be in the future. It is our good fortune to have been born into the age which opened the door into the sea. As we will work under the surface, we will also play.

The sea is our greatest heritage. Gradually, man is beginning to realize its value, to realize that the sea is the key to his future. He will use it more wisely than he used the land given to him . . . because he must.

"The Challenge of the Sea" by Author C. Clarke, on which this article is based, is available to readers through "Skin Diver Magazine" or your local book store.



# INSTRUMENT OF DEATH??

"A box of matches in the hand of a child is also an instrument of death . . ." is the way one reader put it.

With hundreds of letters flooding the SDM offices in response to the exploded trailer picture in the November 1960 issue, we feel it's time to go a little deeper into the cause of the fatal accident.

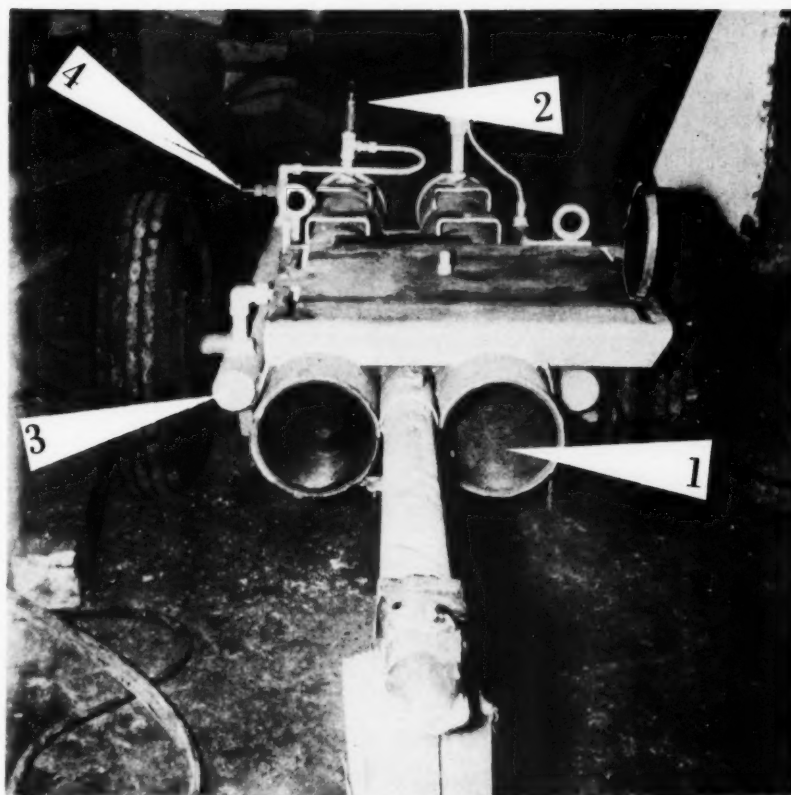
First of all, the unit was a surplus Worthington Model V4A3P-200, manufactured under Air Force contract for ground service equipment for aircraft, especially for hydraulic accumulator recharging.

In the report alongside the original picture, obtained in part from a newspaper, it was reported that the welding apparently failed below the tanks rated pressure.

We do not believe this to be true, nor do the readers who have taken the trouble to write on this subject. The large, blown end tanks (number 1) are *low pressure* receivers, rated for a working pressure of 250 psi and should have a safety valve set at 260 psi (number 2). The high pressure receivers are the two smaller tanks running parallel to the low pressure tanks (number 3) and between the high and the low is a transfer valve (number 4).

Several things, then, become quickly evident. If the pressure gauge read 2800 psi and still the low pressure receivers exploded, then this tremendous pressure must have some way been introduced, or built up, in tanks rated for only 260 psi. Of course we know that there is always a large safety factor in compressor tanks, usually several hundred percent, but certainly not ten times its rated pressure. This would prove the welding extremely good rather than faulty, as was originally reported.

Obviously, the low pressure safety valve was either inoperative or plugged and the transfer valve open, al-



lowing pressure meant only for the smaller tanks to build up in the low pressure receivers. Faulty plumbing, or by-passed valves, could cause the same tragic reaction. Another reader mentions the possibility that the transfer valve was opened *after* the high pressure system was charged, with the inevitable result.

Perhaps the man who lost his life in the explosion is the only one who could know exactly what happened.

Apparently it wasn't the fault of the equipment, but rather mis-information on the part of the operator or a previous operator who modified already safe equipment.

Again we repeat . . . portable pressure tanks, either storage or lungs, should be handled with care. The operator should be familiar with his equipment and respect its potential danger. This, and frequent inspections, will prevent such accidents.





Keith Larson, star of "The Aquanauts," during sequence involving diving bell.

# TV's EXCITING

## The AQUANAUTS

"The Aquanauts," a new, full-hour underwater adventure series re-creates, with as much authentic detail as possible, the hazards and obstacles encountered by two professional divers. Starring Keith Larson as Drake Andrews and Jeremy Slate as Larry Lahr, the show is produced by Ivan Tors, considered to be television's leading producer of shows with scientific overtones. Although production problems will bring about technical errors easily spotted by the experienced diver, the show is still entertaining, exciting and sometimes educational.



Two-man sub used by Aquanauts to spirit a man off a dictator controlled island.



Cameraman is shown filming sequence with two-man sub.



Sneaking closer to shore, co-star Jeremy Slate peers ahead as Larson checks about for enemy divers.

# NEW SHOWS!!

## Assignment... UNDERWATER

Diane Muntford, as Bill's diving daughter, and Bill take to the water for their latest underwater adventure.



Not all undersea danger comes from marine life and watching an episode of Assignment Underwater will quickly prove it.



Bill Williams stars as former Navy frogman turned undersea investigator.

Action, plus the excitement of underwater escapades and all backed by a solid, logical story line is the promise of "Assignment Underwater." Starring veteran actor Bill Williams as Bill Greer, ex-frogman, and Diane Muntford as Bill's daughter, the pair will tackle all manner of undersea, surface and air assignments. Again it is possible that technical problems will dampen the experienced diver's enthusiasm, but the half hour show promises action and excitement in all parts of the world.

Patty Greer (Diane Muntford) listens intently as her father Bill Greer (Bill Williams) takes relayed distress call through Coast Guard Control.



# THE MODERN SKIN DIVER AND THE



# BUFFOONUS- AQUARIUS

By

**DICK ANDERSON**

(Art By Barbara Dodge)

WITH Gustav Dalla Valle, internationally known as the father of skin diving, pushing from one side and Captain Jacques-Yves Cousteau, internationally known as the father of scuba diving, pushing from one side a new offspring was sired which grew to be the modern skin diver. Now strictly speaking, a skin diver is a person who dives more or less in his skin. But, in the general sense, skin diving covers the whole of diving with the exception of helmet work. I'm not a crusader so I'll call it skin diving too . . . for now.

Skin divers are all over the place these days. Everywhere there's water. Even in Nevada . . .

Nevada!

For the most part these skin divers are ordinary people who have taken the fin and mask in hand and started out to explore a really new frontier. They

dive to fish, to look, to just get away from home, to photograph underwater stuff, to salvage, to do something different and exciting (which indeed it is at times), and to do some various underwater deeds for remuneration or courtesy. These aforementioned souls, much the same as you, me and the guy down the street, are the true sons of the Fathers of Diving.

But alas, something slipped. A regulator diaphragm must have ruptured.

There were twins.

Unfortunately all twins aren't the same, exactly. One of the offsprings was normal, the other came into existence and grew and grew . . . to finally become . . . the *Buffoonus-Aquarius*.

The *Buffoonus-Aquarius* is much like you and I in appearance and even similar to the ordinary, run of the mill, dry land buffoon. This part is rather

confusing because a *Buffoonus-Aquarius* isn't necessarily a buffoon when he gets home from the diving trip. Although I think it is a safe assumption that a dry land buffoon is more apt to be a *Buffoonus-Aquarius* than not.

The situation is, when some individuals don their diving gear a startling change takes place. It is much the same as the meek browbeaten stock clerk who changes into a dangerous, snarling tiger when he's behind the wheel of his car.

The water he dives in seems to wash away any semblance of sound reasoning and turns him into a monster (even the small ones are monsters) which can only be described as a *Buffoonus-Aquarius*.

The usual *Buffoonus-Aquarius* may go undetected on the surface (there is no average because they are all below





it), but underwater they stick out like a sore thumb. They have one dead giveaway. All of them are chronic signalers. They will go to any means to signal you, and you had better answer because they never give up. The favorite buffoon signal is made by placing the index finger-tip to the thumb, palm toward the victim, and the rest of the fingers spread. This is the famous Air Force OK sign. It has been so drummed into the buffoons by grade A, B, and C movies that they can never forget it.

Unfortunately.

And T.V. didn't help either.

But understand me, it's not the sign that's bad, it's the way it's delivered. Imagine this scene. You are down at 120 feet intently examining some strange find. All of a sudden you're hit as if by a sea elephant in heat . . . Wham! . . . it happens again. You look around in stark terror, sure of an attack by some strange sea creature. You were right. You see the withdrawing left arm of a buffoonus-aquarius while all the time his right arm is making this strange thrusting gyration . . . supposedly adding potency to his signal. This happens. Diving isn't like it used to be.

Sometimes, in curiosity, I return this signal and the buffoon seems so emotionally disturbed, so overwhelmingly moved by the thought of two strangers making contact in an alien world, that he actually appears to achieve a climax to his dive and heads for the surface.

On the surface a *Buffoonus-Aquarius* can be spotted quite easily if one is alert. He is not an amateur at anything

in, around or under the sea. After he has made enough dives to rate him as a *Buffoonus-Aquarius* he automatically becomes an expert in salvage, underwater photography, helmet diving, commercial diving as a whole, marine biology, whales, wrecked subs, diving gear, skin vs. scuba, scuba vs. helmet and is an authority on a host of other nautical things in general.

This is the guy who, when you are doing an honest diving job for money, says to your employer no less, "Heck, I'll do that for you for nothing." He is the guy who, when you are performing some exacting task underwater, bulldozes his way in, gives you the all-meaning signal and sticks both of his hands into it. He is the guy who, when you are clearing a fouled propeller in a crowded harbor, is sitting on his boat with his girlfriend and, upon seeing the activity, dons his gear while standing on the highest level spot on his boat so all can see, jumps into the water amid squeals of anguish from the girl and swims to your aid. You feel the jarring concussion and turn around to see the signal. Then he hurries back up and yells to his girl that the guy down there is doing fine. Following that dramatic announcement, he proceeds to tell the skipper, all the while athletically treading water, what an easy job it is. He usually clears out about the time you come up but by then it's a begrudging skipper that hands over your hard-earned five, ten or twenty.

Buffoon goes back to posing on his poop-deck like a living Marlborough ad.

All these things are, of course, generalities but to be more specific I'll recount a recent dive at Catalina where I came in actual contact with the *Buffoonus-Aquarius* (fate was against me).

I anchored my cruiser over the sunken, 150 foot diesel yacht "Valiant," which rests just off Saint Catherine Beach near Avalon. My intent was to take several photos of my wife Mary sitting in the bathtub that rests in the bow. Bathtub depth is a little over 100 feet. Since my wife was going to dive with no neoprene suit and the water at that depth gets a little chilly, I descended first with my cohort Red Carter to see that everything was as it should be. Since Carter was having a little trouble clearing, I went down ahead of him, keeping one eye on him all the while up through the clear water. (I added the last line to satisfy the *Buffoonus-Aquarius* Sea-Hunt critics.)

Our anchor had landed about fifty feet away from the stern of the Valiant so I picked it up and planted it again right under the stern. Then I swam back to the first spot and pulled up on a bit of inch-link chain I had noticed.



The result was about two fathoms of chain and a twenty pound Danforth lacking a little galvanize, but good. This I took over and hooked into my anchor chain so I could retrieve it when I pulled anchor. I could see Carter approaching the Taff rail above me so I joined him. We swam through an opening in the promenade deck and proceeded forward 'tween decks. There were three tubs in the stern more or less in a heap. I worked the topmost one onto a level spot of the No. 2 deck for a later picture. In doing so I came across a pair of mooring or towing bitts that had fallen through the deck above. We continued forward and passed over the engine room with the two big diesels sitting side by side, all the power plants and auxiliaries clustered around them. The forward compartment, where the bathtub we were interested in rested, was perfectly clear. I stuck my head through the hatch and I could see the entire compartment corner to corner with only the light from a few broken out port holes. It was perfect for pictures and we were very careful to do nothing to disturb it. On the way back to the anchor and descending line I stopped and used the remainder of my air getting the set of bitts out of the pile of junk in the No. 2 deck and up to clear, level space on the poop deck. And I'll take this opportunity to mention that the job pooped me out. (I did it, by the way, without a single signal.)

The air was getting low so we surfaced (twenty-five feet per minute, buffoons). I changed cylinders while Mary got into her gear. We were do-

(Continued on Page 69)



# News Current

NEWS FROM AROUND THE GLOBE COMPILED AND EDITED IN SKIN DIVER OFFICES. Local diving news from readers welcomed.

**MANASQUAN, NEW YORK**—Divers are hopeful of finding artifacts from a 40 foot vessel which may have been built in the Viking era. Representatives of the Smithsonian and Rutgers University were also expected to examine the wooden hulk. Pieces of the ship were discovered on **Manasquan Beach** shortly after **Hurricane Donna** churned up the area. Observations are that the keel-less vessel may have been part of an 8th or 10th century Viking ship.

**WILMINGTON, MASSACHUSETTS**—State police ballistics experts are examining a .38 caliber revolver discovered in the **Ipswich River** by a team of Navy skin divers. The gun and another found several days prior were believed used in a holdup-murder at the **Robert Hall** store in **Saugus**.

**BOLZENA, ITALY**—U.S. and Italian skin divers are raising the hulk of a U.S. B-17 Flying Fortress that crashed into **Lake Bolzena** during World War II. Rumors were flying that the plane contained U.S. occupation money for Italy, but the diving team attached to the U.S. Graves Commission reported they were only trying to recover the bodies of the bomber crew members and knew nothing about any treasure.

**HAIFA, ISRAEL**—A valuable silver coin was recovered from the sunken site of the port of **Caesarea** by members of the **Edwin A. Link** expedition. The coin was taken from the floor of the Mediterranean about ten miles south of **Haifa** where the port of **Caesarea** once stood. **King Herod** had the harbor built in 35 B.C. and for centuries it was the capital of the **Roman Palestine**. The diving expedition will work the area again next year in an attempt to reconstruct **Caesarea** as it was in **Herod's** day.

**NEW HAVEN, CONNECTICUT**—Skin divers joined rescue workers in the murky darkness for recovery of an auto and its two passengers. The vehicle was located by divers **John Metcalk** and **Robert Sjorgen** 25 feet underwater almost under the bow of a 500 foot, 16,000 ton ocean-going freighter. The divers recovered one of the victims and the other was found inside the car when it was hoisted to the surface by a huge crane.

**ST. PETERBURG, FLORIDA**—Assistance is being sought by **Charles E. Fetherston** in a research project he has undertaken on marine casualties and shipwrecks. SDM readers able to furnish any issues of "Lloyds Weekly Casualty Reports," "American Maritime Cases," U.S. Lifesaving Service Report" or Coast Guard or other reports concerning wrecks, charts, derelicts, salvage can write **Mr. Fetherston** at 397 Dolphin Ave., S.E., St. Petersburg.

**LOS ANGELES, CALIFORNIA**—A University of Southern California student, **Robert R. Given**, is earning his doctor's degree by photographing poisonous fish. **Given** recently took part in a U.S. Navy research project in the **Eniwetok Atoll**. He spent from four to six hours a day in the water taking 16mm underwater movies of the deadly stonefish, lionfish, cones and millipore coral.

**WARRENSBURG, MISSOURI**—An archaeological group planning exploration of ruins in lakes of **Central America** is looking for an experienced skin diver to go along. The diver is sought by **Roy Weldon** who will lead the **Book of Mormon** expedition in January. The main object of the privately financed expedition is a pyramid reported to protrude from **Lake Montebello** in the state of **Chiapas, Mexico**.

**WASHINGTON**—The Federal Trade Commission charged the **Mennen Co.** with using deception in a television commercial promoting the underwater properties of its "Mennen Soft Stroke" shaving cream over competing products. The challenged commercial showed a skin diver demonstrating the richness of the product underwater. The F.T.C. indicated that the **Mennen** product did not dissipate as rapidly as others demonstrated because it was a mixture of tooth paste and shaving cream.

**WEST MILFORD, NEW JERSEY**—A six-man skin diving team searched the waters of **Greenwood Lake** in an unsuccessful attempt to find the gun used to murder an ex-convict. The bullet-riddled body of **Salvatore Malfetti** was found near the lake. Divers in the search for the gun were **William O'Sullivan**, **Robert Zdrofsky**, **Adolph Woll**, **Les McKenna**, **Thomas Liss** and **Martin Reardon**.

**MONTAUK POINT, NEW YORK**—Five skin divers were arrested early this winter for violating the controversial section of the **East Hampton Town** waterways ordinance which prohibits diving in an area at **Montauk Point**. The five were picked up at **Caswell's** where the **Empire State Underwater Council** forced a test case of the law last spring which is still in the courts.

**BOSTON, MASSACHUSETTS**—Boston's Fire Department has established a special rescue unit of skin divers, ready to respond in an emergency at any hour.

**SANTA ANA, CALIFORNIA**—More than 400 divers have been instructed at **El Toro Marine** post in the past three years.

**ACAPULCO, MEXICO**—**Robert Kennedy**, brother of President-elect **John Kennedy**, enjoying a skin diving vacation in **Acapulco** suffered a strained neck when he pulled himself into a motor boat. The injury was not serious.

**LA JOLLA, CALIFORNIA**—Three diver-geologists from **Scripps Institution of Oceanography** recovered a man's skeleton in the bottom of a submarine canyon in 80 feet of water 650 yards off **La Jolla**. The skeleton may be the remains of shark attack victim **Robert Pamperin** according to authorities.

**MONROE, MICHIGAN**—**Delbert J. Schmitz**, **Norman Allen** and **Walter Trowbridge** believe they have found an abandoned underwater silver mine in **Lake Superior**. After a 10-day exploration trip they brought back samples that came from the lake bottom north of **Isle Royale**. **Schmitz** who studied old records of the **Silver Islet Mining Co.** for two years before the search started said the company mined \$7,000,000 worth of silver from it from 1868-1884. The mine was abandoned when pumps failed and the shafts filled with water. **Schmitz** claims one end of the 4,000 foot vein is now in four feet of water and runs out into the lake down to 80 feet underwater. The trio of divers hope to mine the vein again, if they can get financial backing.

**BLOCK ISLAND, RHODE ISLAND**—A group of German and Swiss salvage men are going to spend \$25,000 on an attempt to raise the Nazi U-boat sunk off **Block Island** 15 years ago so it can be put on public exhibition. **Burton Mason** who has spearheaded a campaign to recover the U-853 crew members to return to Germany for burial announced the salvage effort was to begin late in 1960. The submarine will be put on exhibition in hopes to recover part of the \$18,000 **Mason** has in the venture so far. Raising of the controversial sub will also settle rumors that it carries mercury or other valuable cargo. **Mason** has been unable to confirm this in 79 separate dives. With the submarine surfaced **Mason** will be able to finish the job he has set for himself of removing the bones of the 54 men still aboard for burial in Germany. The unidentified remains of one crewman removed last June are still at a **Newport** funeral home. The sub is 127 feet beneath the surface and seven miles due east of **Block Island's Sandy Point**.

**MIAMI, FLORIDA**—Cuban airline pilot and skin diver **Armando Piedra** flew his turbo-prop plane into **Miami** from **Havana** in November and asked for political asylum. **Piedra** was known throughout Cuba as the president of the **Cuban Skin Divers Federation**.

**EUGENE, OREGON**—Probing the waters of lake **Dexter**, skin divers spotted an oil slick and investigated. In 25 feet of water about 25 feet from shore they found a car and recovered it. Four bodies were recovered from the car and identified by police as **Howard Lemons**, his wife and two children. Three other children were recovered later.

(Continued on Page 74)



## VOIT 50-FATHOM REGULATOR

*The easiest breathing, safest, simplest demand regulator ever built. Skin diving experts and retail specialists tell us this is the most exciting advance in diving equipment in years!*

# VOIT

*Finest  
Diving Equipment*

1961

## LUNG & DIVING EQUIPMENT

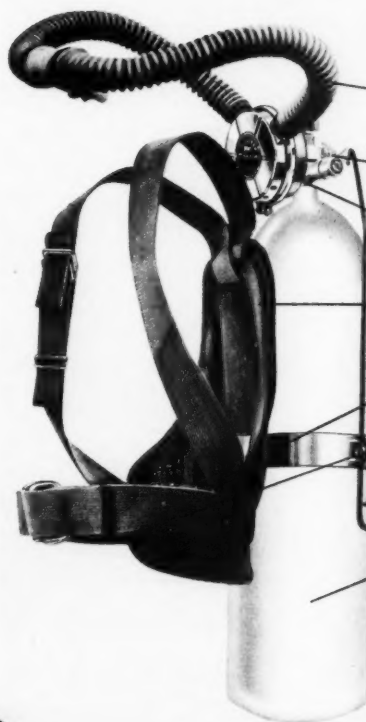
### The Voit Lung

The Voit 50-FATHOM REGULATOR & VOIT SAFETY TANK WITH SNUG-PACK combine safety, performance, beauty and comfort to provide the best lung on the market today!

The 50-FATHOM REGULATOR is entirely chrome plated over brass fittings. Rust free construction throughout. Flexible grey neoprene hoses feature a comfortable, thin mouthpiece and non-return valves. Unbreakable nylon clamps.

VOIT SAFETY TANKS have the exclusive CORVEL® VINYL FUSION BOND FINISH. New fusing process makes this vinyl coating superior to traditional galvanizing. Successfully resists corrosion, chipping and peeling by providing the toughest, most salt resistant protection ever developed for a tank. White for added visibility.

New, fiberglass contoured SNUG-PACK holds tank comfortably and securely in place. Fully adjustable. Wide straps with only one "D-Ring" buckle.



### Extra Value Features

Pearl grey neoprene hoses with non-return valves.

Compensated regulator. Easiest breathing at any depth. Minimum working parts for safety and ease of maintenance.

Chrome plated box. Rust free construction throughout.

Comfortable, contoured back plate of tough fiberglass.

Stainless steel tank band adjusts up or down — just where you want it.

Deluxe Snug-Pack as shown has wide 2" harness, "D-Ring" buckle on shoulder strap, safety release belt buckle and single wing bolt.

Safety Reserve (pre-set, 300 psi).

Safety Tank ICC approved drawn steel. Exclusive CORVEL® VINYL FUSION BOND fused to the tank for positive protection against corrosion chipping and peeling. All white for safety and visibility.

VCR-2 VOIT VIKING 50-FATHOM REGULATOR ..... **75.00**  
SCR VOIT VIKING SAFETY TANK WITH CONSTANT RESERVE VALVE AND STANDARD SNUG-PACK ... **87.50**

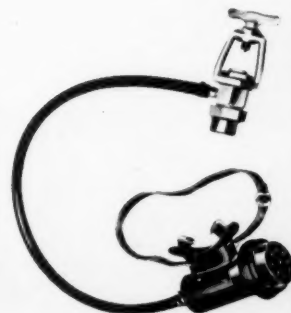
### VCR1 VOIT VIKING 40-FATHOM REGULATOR

Two-stage for easy breathing at all depths. Chrome plated brass fittings. Handy purge button and canted exhaust ports for quick clearing through both sides of mouthpiece, away from face. Pearl grey neoprene mouthpiece, hose, chin rest and neck band ..... **65.00**



### VR3 VOIT EXPLORER REGULATOR

Top performance at a modest price. Built-in automatic reserve compensates when used with non-return valve. Exhaust designed to channel bubbles away from face. Durable, safe and easy-breathing ..... **37.50**





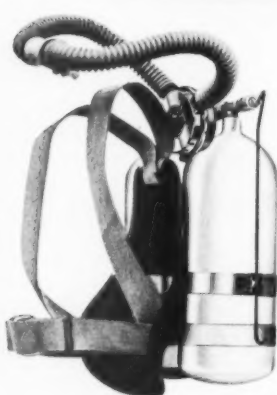
### VBP10 VOIT DELUXE SNUG-PACK

Comfortable, contoured back plate of rust free fiberglass. Non-chafing "easy adjust" straps. "D-Ring" buckle on shoulder strap for quick release and new safety release belt buckle. Stainless steel tank band and single wing bolt for perfect adjustment.

14.95

### VBP20 SNUG-PACK

Same as VBP10 except designed for twin tanks. 19.95



SPNR  
(CORVEL)

Compact size and low initial cost makes portables a natural for beginners, women divers, boat owners and a growing number of divers who resist the bother of heavier standard tanks.

SPNR	White Safety Portable with moderate depth No Reserve valve	50.00
SPCR	White Safety Portable with Constant Reserve valve	70.00
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## Tank Blocks & Valves

Choice of single or twin tanks in three models with standard Snug-Pack: 1 Galvanized chrome molybdenum tanks in standard sizes (2250 ICC psi, 71.2 cu. ft.), 2 Portable size (1800 ICC psi, 38 cu. ft.), 3 Safety tanks in standard and portable sizes with exclusive CORVEL® VINYL FUSION BOND FINISH. Tanks come with choice of moderate depth, no reserve valve or pre-set, constant reserve valve.

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NR	Galvanized tank with moderate depth No Reserve valve	62.50
CR	Galvanized tank with Constant Reserve valve	82.50
TCR	Galvanized Twin tanks with Constant Reserve valve	150.00

### SAFETY TANK BLOCKS (including standard Snug-Pack and valve)

SNR	Deluxe white Safety tank, with moderate depth No Reserve valve	67.50
SCR	Deluxe white Safety tank, with Constant Reserve valve	87.50
STCR	Deluxe white Safety Twin tanks, with Constant Reserve valves	160.00



NR  
(GALVANIZED)



SCR  
(CORVEL)



TCR  
(GALVANIZED)

### BARE TANKS (no air, valve or Snug-Pack—not illustrated)

DS 141	71.2 cu. ft. galvanized	45.00
DS 142	71.2 cu. ft. with white safety coat	50.00
DS 167	38 cu. ft. portable, galvanized	38.00

Voit lungs can be purchased in any combination, based on the price of the component parts as shown, to provide the exact combination of quality equipment that your diving needs.

Voit tanks are filled with Certified Air and are factory inspected before delivery. Average diving time: Portable Tank 35 minutes, Standard Tank 70 minutes, Twin Tanks 140 minutes.

## VOIT VIKING SPEAR GUNS

Exclusive! New one-piece detachable high-elastic slings and improved muzzle design increase power and accuracy. Add or remove slings with no effort. Easier to cock. Newly designed muzzle eliminates nuisance of special fittings.



61F	46" length. Deluxe Gold barrel. Fixed spearhead. Double set of elastics. Double handles	27.50
62F	43" length. Gold barrel. Fixed spearhead. Single set of elastics	19.95
63F	35" length. Gold barrel. Fixed spearhead. Single set of elastics (not shown)	17.50

## VOIT "CARBINE" SPEAR GUNS

Big power in a small package. Best for working in dense sea growth, in rocks or coral. Single set of elastics.

64	Gold. 29" barrel	14.50
65	Gold. 19" barrel, treble-barbed spear (not shown)	11.95

**New!**



#### A11 VOIT SKIN DIVER FINS

Two-plane action is designed to give a full power thrust while greatly reducing leg fatigue. New, stiff blades increase performance. Full foot pocket with open toe features optional cut-out heel strap. Fits all foot sizes. Eliminates instep straps and buckles. Fins fit either foot. They float! Two-tone royal blue ..... **11.95**  
 Shoe sizes: Small, 5-7. Medium, 7-9. Medium Large, 9-11. Large, 11-13.

#### A10 VOIT SKIN DIVER FINS

Same as A11 except for jet black non-floating rubber. .... **9.95**  
 Shoe sizes: Small, 5-7. Medium 7-9. Medium Large, 9-11. Large, 11-13.



#### B11B-S VOIT 50-FATHOM DIVING MASK

Finest mask ever designed for deep water divers. Exclusive built-in depth equalizer works by unbreakable stainless steel lever from outside to relieve pressure—lung mouthpiece can't interfere. Panoramic view tempered safety lens. Wide, split neoprene headstrap with side buckles for snug, comfortable fit. Deluxe stainless fittings. Blue. .... **6.95**

#### B11BK-S

Same as B11B-S except in jet black. .... **6.95**



#### B6B-S VOIT VIKING SWIM MASK

Softer rubber for comfort and better seal. Tapered edges for use with rubber suits and lungs. New split neoprene strap with side buckles for a snug, sure fit. Oval, clear tempered safety lens. Deluxe stainless steel fittings. Light blue. .... **4.95**



#### SA66 VOIT VIKING STRAP HEEL FINS

Specially designed strap heel is engineered to give full control on power thrust. Stiff, extra long blades and raised ribs provide maximum performance. Fins fit either foot. They float! Jet black ..... **13.95**

**SA66M-ML** Shoe sizes: Medium, 7-9 with boot. Medium Large, 9-11 without boot.

**SA66L-XL** Shoe sizes: Large, 10-12 with boot. Extra Large, 12 and up without boot.



#### A6 VOIT VIKING FINS

The experts' favorite. 19" long with 8½" wide curved stiff blade for maximum thrust. Raised ribs add water channeling action. Soft, comfortable foot pocket. Fins fit either foot. They float! Two-tone royal blue. .... **10.95**  
 Shoe sizes: Medium, 7-9. Medium Large 9-11. Large, 11-13.

**New!**



#### A66 VOIT VIKING GIANT FINS

Giant size professional fins—the biggest and the best. 22½" long with 9" wide blade provide even greater thrust. Raised ribs increase power. Full foot pocket has optional cut-out heel strap. Fins fit either foot. They float! Two-tone royal blue ..... **14.95**

**A66M-ML** Shoe sizes: Medium, 7-9 with boot. Medium Large, 9-11 without boot.

**A66L-XL** Shoe sizes: Large, 10-12 with boot. Extra Large, 12 and up without boot.



**New!**

#### A9 VOIT EXPLORER FINS

New slim design gives effective thrust while minimizing fatigue. Comfortable full foot pocket features optional cut-out heel strap. Fins fit either foot. Jet black. .... **8.95**  
 Shoe sizes: Medium, 7-9. Medium Large, 9-11. Large 11-13.



#### B9 SPECIAL SWIM MASK

High style at lowest price. Comfortable, easy to fit. Oval shape. Split neoprene strap with side buckles. Deluxe stainless steel fittings. **B9BS** Deluxe, blue, tempered safety lens. .... **3.95**

**B9BK-S** Deluxe, black, tempered safety lens. .... **3.95**

**B9B** Deluxe, blue, clear glass or plastic lens ..... **2.95**



#### B12W-S VOIT DEPTH EQUALIZER SWIM MASK

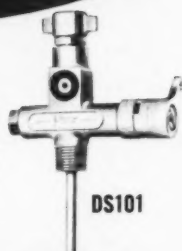
Comfortable, wide vision mask built for the skin diver who wants quick, sure pressure relief. Pinch holes allow diver to squeeze nose without removing mask. Tempered safety lens and deluxe stainless steel fittings. White ..... **4.95**  
**B12B-S** Same as B12W-S except in Blue. .... **4.95**



**DS99 VOIT VALVE**  
Standard single tank valve, no reserve ..... 7.95



**DS101 CONSTANT RESERVE VALVE**  
Deluxe single tank valve, constant reserve set at 300 psi ..... 30.00



**DS201 TWIN CONSTANT RESERVE VALVE ASSEMBLY**  
Deluxe. Reserve set at 500 psi ..... 47.50



**DS98 SOLID YOKE BAR**  
Connect two NR valves to form single twin tank block. Use tanks separately or together ..... 14.95



**DS106 TANK FILLER**  
To connect tank to any standard fitting at compressed air supply source. Bleeder valve, for easy disconnection ..... 6.95



**DS107 TANK PRESSURE GAUGE**  
Gives positive check of air supply in tank before and after diving. Bleeder valve, for easy disconnection. .... 9.95

**DS130 COMMERCIAL FILLER & GAUGE**  
Heavy duty hose and fittings. 36" hose. .... 39.95

#### DK3 DELUXE SKIN DIVER'S KNIFE

Durable stainless steel blade with serrated edge. Converts from floater to sinker with removable weight in handle. Water resistant plastic sheath ..... 4.95

#### DK2 SKIN DIVER'S KNIFE

Same as DK3 except non-converting. .... 3.95

#### DS125 VOIT DELUXE WEIGHT BELT

Five 3-pound weights with new CORVEL® VINYL FUSION BOND FINISH. Quick release safety buckle on two-inch nylon belt. Weights can be removed without taking off belt. .... 19.95

DS126 — Deluxe 3-pound weight with new CORVEL® VINYL FUSION BOND FINISH. .... 2.95 ea.

#### DS120 VOIT WEIGHT BELT

Adjustable, with eight 1-lb. weights. Weights can't slide together. .... 9.95



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#### UTILITY TANK STANDS

Keeps tanks in a safe, upright position when not in use. Single stands have new CORVEL® VINYL FUSION BOND FINISH.

DS143—Single Tank Stand ..... 3.95  
DS144—Twin Tank Stand ..... 6.95



#### DG2-C VOIT DELUXE COMBINATION COMPASS & DEPTH GAUGE

Professional model for the expert. Chrome plated brass case, liquid compass and luminous dial. Plastic wrist band. Calibrated to 150 feet. .... 15.95

#### DG3 VOIT PROFESSIONAL DEPTH GAUGE

A precision instrument for the expert. Guaranteed accurate + or - 2.8 feet. Large, luminous easy reading dial scaled to 140 feet. Shock resistant blue rubber case, shatterproof lens. 14" plastic strap. .... 10.95

#### DG1 VOIT DELUXE BRASS DEPTH GAUGE

High quality brass construction. Large luminous dial scaled to 100 feet. Curved, shatterproof lens. Plastic case and strap (not shown) ..... 7.95



New



#### DC3 VOIT DELUXE WRIST COMPASS

Precision, high quality compass with large centering bubble and luminous dial for accurate, quick reading. Rugged blue rubber housing with 14" plastic strap. Shatterproof lens. .... 6.95

#### SDB1 VOIT VIKING SKIN DIVING BOOTS

Blue foam rubber boots, waterproof and fully insulated. Protect against cold, rocks, coral, blisters, etc. High top design with semi-firm bottom for comfort and better fit. Full shoe sizes 5 through 13. .... 4.95

#### VOIT SPORT LIGHTS

Waterproof, dependable light under any wet conditions. Neoprene case withstands shock and wear.

FL2—Two cell. .... 3.95  
FL3—Three cell. .... 4.50



#### F4 VOIT SKIN DIVER SNORKEL

Flexible tube yields to underwater obstacles. Strap adapter. Blue and grey. .... 1.95

#### F5 DELUXE SKIN DIVER SNORKEL

Flexible tube. Corrugated bend has non-kinking coated wire support. Smooth inner wall for positive clearing. Strap adapter. Blue and white ..... 2.95



#### RU4 CORVEL® REPAIR KIT

Apply CORVEL® directly to damaged area from tube. Prevents damage from corrosion and blends with original finish ..... 1.25

See Voit Swim Equipment Catalog No. 261S for adjustable and inexpensive fins, masks, and miscellaneous accessories.

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Mr. Dealer — See the entire Voit line at the NSGA Show Rooms 424-426, Morrison Hotel, Chicago, January 22-26.



# THE GREAT EVEREST TRENCH

By  
FLETCHER CHRISTIAN JONES

OF THE MANY brave adventures set forth in "Skin Diver Magazine," two have never been recounted. Though I doubt being the only one who knows them, it's time that they were recorded for posterity. The first may still be unknown to many since the circumstances of its onset were quite unusual.

It started early in September of 1954, when three of us were southbound three days from the port of Jaswatch in the Swimalayas. A hurricane swept our abalone boat far off course and onto the great reef at Everest Island. I may have been unconscious for days, but woke to find myself in the care of a group of small dark-skinned natives of amazing strength and endurance. I learned they were of the supposedly lost tribe of Serfis. By sign language I learned that my companions and our boat had been lost in the storm, and that my life had been saved only by the heroic efforts of the fair island maiden, Tondeleyo McTavish. (Her father had washed ashore from a Scottish whaling vessel.)

The only other things saved from the wrecks were seventeen unopened cans of premix, a two-cycle compressor, two full wet suits with masks and an Orca Sea-hunter underwater camera, but no flash bulbs.

In the balmy weather, with ample good food and the affectionate care of Tondeleyo my recovery was fast and complete. Until now I had limited myself to short walks on the beach, swimming in the small lagoon and helping my new friends mend their nets as I tried with Tondeleyo's help to learn their language. Now the pearl oyster season was approaching and I was anxious to repay my debt by helping with the harvest.

Too, there was a curiosity about the reports of the first scouts to return from the initial dives of the season. Many ran back across the great reef which extends to the Everest Trench shouting what sounded to me like, "The Vet is back." This always seemed to cause great excitement, but try as she could, Tondeleyo was unable to make me understand the cause for excitement.

Finally, when the outriggers were ready, the rusty compressor restored to a steady wheeze, and a native trained to tend it, we headed for the far side. On this day I was to receive one of the greatest surprises of my life.

The natives slipped over the side one by one with their

giant baskets and down lines of incredible length as I donned the last of my gear. This was to be my first dive from the outside where the water was of a clarity to match Silver Springs, and the sheer wall of the reef descended almost perpendicularly into gloom that appeared to be endless. The natives were following this surface out of sight. With real trepidation I made last adjustments and splashed after them.

At one hundred feet I still couldn't see the bottom, though divers were passing me in both directions. At two hundred feet I dangled on the end of my hose in disbelief, and still divers passed, some descending, some ascending with their lines and with oysters that measured to four feet. My valve full open was inadequate at that depth, and thinking I had the raptures I signaled for ascent.

Back on the surface I considered many things and for several days questioned my sanity. The things that I thought I saw were impossible. I had to improve my understanding of the language. Now with a reason to understand, I learned that an herb found on the island and eaten by the natives kept nitrogen out of the system at great depths, and that air trapped in caves down the face of the reef sustained the divers to depths hitherto unknown. By following the other divers I found that in about two weeks I was able to descend the full distance. I measured several of the lines that carried the baskets and know what this depth is, but it is too unbelievable to reveal.

The season progressed uneventfully and I was able after awhile to gather my share and work a full shift with the natives. I had been working thus one day in a deep bed gathering mostly oysters which I hoped would have pearls small enough to be of some commercial value, when in the gloom to my right, I saw an outgrowth which looked unfamiliar, I turned to give it my full attention. Swimming slowly a short distance toward it, I stopped abruptly when I thought I detected movement. Was it growth moved by the current or was a giant arm gathering small oysters!

Cautiously keeping my distance I swam slowly, the start of a circle. Then the thing I feared to imagine happened. Fully twice my size, a man with short white hair

(Continued on Page 78)

# THE ANCHOR THAT HAD TO BE RAISED

By  
**DICK SPENCER**

(Photography by author)

**T**HE ROAR of escaping air and the barrels bursting through the white, foamy surface marked the completion of a two-year dream of an Anaheim, California, skin diver named Bob Retherford. After many hours of hard labor in 120 feet of water, months of planning and the loss of one man's life, the 100-year-old, three thousand pound anchor was carried to the surface by eight air filled cylinders.

It all started about two years ago when Bob was off Catalina Island, Calif., testing an underwater camera housing for a manufacturer. The camera was to be taken to at least 100 feet and thoroughly checked. When Bob dropped over the side and sank to the bottom he was busy operating the controls and checking for leakage. When he settled to the bottom he gave the camera one final check and looked around for a subject to start shooting. What lay in front of him almost caused him to drop his mouthpiece.

The anchor was enormous and with everything looking one-third larger than its normal size underwater, it looked almost impossible. The anchor actually measured twelve feet long with eighteen inch links of chain which led off into the depths. Bob followed the chain to almost two hundred feet in hopes of finding a ship on the other end but his air supply ran short and he had to surface.

From then on it was a fetish. "How will I raise that anchor?" Finding out that barges with large cranes are too expensive and dynamite is hard to find, even on the black market, a plan was devised.

Getting Pierpoint Landing, in Long Beach, to back the venture with a boat and rounding up a few diving buddies he set out to raise his anchor. The first trip, like many of the following, turned out to be a failure, but eventually things started working out as planned. The first project was to cut the chain from the anchor. Explosives couldn't be found and cutting torches are extremely dangerous at that depth. The only thing left was a hack saw and slow, backbreaking work.

After making one cut that ended up in the wrong place they had to start over. After two more cuts the chain was free from the anchor.

The next trip barrels were to be attached but before

all the barrels were attached one man lost his life from "rapture of the depths" (nitrogen narcosis). After weeks of the divers' wives pleading with their husbands not to continue because of the perpetual misfortunes, it was decided that the anchor would be raised in memorium to Joe McCabe, the diver who had died.

The roster of divers aboard the 85 foot boat as it left Long Beach for the island was staggering. It was a list of about fifteen of the best divers on the west coast. Even divers from out of state drove hundreds of miles to lend a hand in the memorium.

The day was beautiful and the water was like crystal clear glass with visibility to about 80 feet, ending at a wall of deep, gorgeous, midnight blue with an occasional stream of bubbles rising from a diver below.

The anchor was sitting on end with one fluke buried in the sand. Several barrels from the previous trip were already chained to it and being filled with air from extra bottles brought down for that purpose. Two more barrels were lowered and men started digging with shovels to free the buried fluke.

The great anchor gave a slight shudder, as if waking after a long sleep and hung slightly suspended. Another barrel was tied on and air was fed to it. The monster began to rise and as the air expanded in the barrels it gained momentum escaping from its watery grave. As it raced to the surface, the roar of the rushing air, escaping from the drums, could be heard for miles. All anyone could do for the next fifteen minutes was just stand there repeating over and over, "We did it . . . we did it!"

The anchor was then towed into Avalon Harbor, hoisted out of the water and set on the back deck of the boat, with the skipper praying that his deck would hold and that the sea would be calm on the 25 mile trip back across the channel. It was calm and everything went like clock work with not one, even minor, mishap during the whole day. Maybe there was another diver helping that no one could see.

The anchor will be put on display at Pierpoint Landing, in Long Beach, along with a plaque reading: "In memorium to Joe McCabe, from his diving buddies." ➤



"Mac" McClintock of Pierpont Landing readies drums. Joe McCabe, in stocking cap behind McClintock, lost his life only hours later.



The explosion was heard for miles as air expanded four times its original volume when the drums rushed the anchor to the surface.



Retherford sinking one of the barrels. Barrels were filled with water, attached to anchor and then air was pumped in from lungs.



The great anchor is hoisted from its floats by crane and gently lowered onto stern deck as onlookers stare at the relic.



Divers, some of the best on the west coast, preparing to lower another barrel to the anchor resting one hundred twenty feet below.



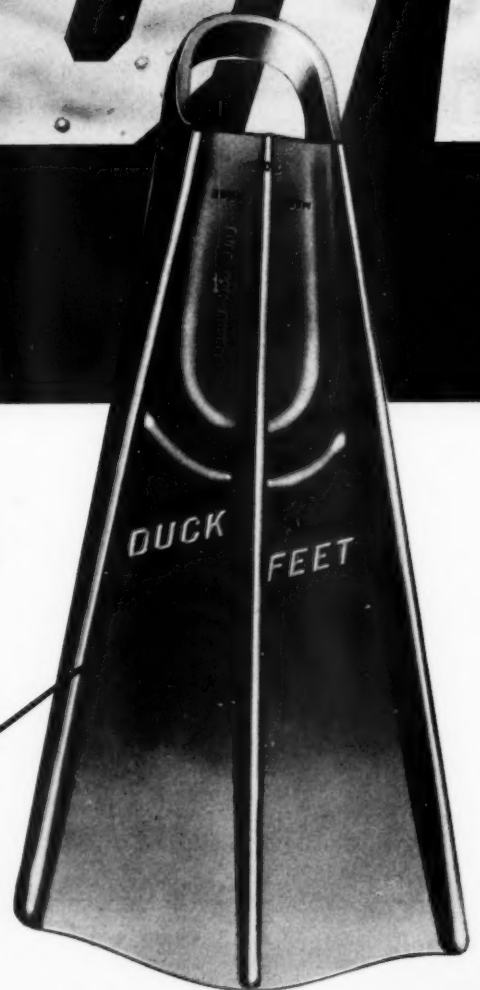
Safe on the dock, the 3000 pound anchor will be placed as a memorial to Joe McCabe, who lost his life during the recovery.





**THE GREATEST NAME  
IN SWIM FINS**

LOOK FOR  
THE NAME ON  
THE BLADE





- Choice of the Experts Everywhere
- Used by Navy U. D. T.
- The Finest, Most Powerful Swim Fin Built



*Symbol of the highest quality in Skin Diving Equipment*  
AFFILIATE OF PACIFIC MOULDED PRODUCTS CO.  
905 E. 59th St., Los Angeles 1

## Joseph D. ALBEANESE

Special Assistant  
to the President  
of the  
**UNDERWATER SOCIETY  
OF AMERICA**



**U**SHERING in a bright new year in the Underwater Society of America is Joseph D. (Jay) Albanese with plans to establish a sound financial background for the organization. Jay was recently named special assistant to the president with specific duties to negotiate for financial aid for the Society.

This new post will carry the Louisiana diver over the entire country visiting divers to "co-ordinate and establish a central organizational headquarters whereby we will have a communication system set up to enlighten and help spread the word of what the Society is, what it does, its aims and purposes on a direct personal contact basis." Basically he will be handling fund raising campaigns and finances of the Society and establishing a yearly budget which will include funds to send a U.S. team to the world competitions.

Jay has already visited several groups in the southwest, west and south and will be visiting the rest of the country this year. He will be meeting not only with diving clubs and councils, but will promote diving and the Society in all its phases with lectures and films before civic and social organizations.

Through SDM Jay asks for "a united effort of all Society members in helping us attain goals this year in our fund raising campaign by talking to friends and acquaintances, explaining the value of the Society and what it is attempting to accomplish, what it will be able to do for each and every diver by asking for financial support from contributions which may be sent to: Underwater Society Foundation, 2412 Times Blvd., Houston, Texas." Jay reminds divers that their non-diving friends can hold financial memberships and that their contributions are tax deductible.

"In our financial program," Jay explains, "we have categories of financial membership. Contributions over \$25 will be acknowledged by receipt of a signed certificate by the president of the Society stating that they are financial supporters." The schedule of financial membership is annual booster, \$5; annual fellow, \$25; sustaining fellow, \$100; sponsor, \$500; patron, \$1000; and benefactor, \$5000.

Jay's personal diving began in 1956 when he and his son, Joey, were on a deep sea fishing trip off Ship Island in the Gulf of Mexico. They tried scuba equipment and were so impressed that they rented their own the next weekend after spending the week pouring over every diving book they could find. The week following they purchased two complete diving outfits and have been diving since. Jay said he and his son have always been close

and the sport of skin diving drew them even closer together. Jay's wife, Katherine, and daughter, Kathy, accompanied them on the first trip and many since. Kathy became intrigued and for her 10th birthday was taken on a diving trip 60 miles out into the Gulf to dive among the oil rigs.

Jay's diving has centered in the nearby Gulf waters off Texas, Mexico and Louisiana although he has dived in the waters of Florida, the California coast and central lakes.

A member of the Bajaos Skin Diving Club, Jay's interest in spearfishing has cooled with more recent emphasis placed in the scientific area and underwater photography. He is president of the Oceanographic Institute of America, vice-president of Oceanographic Development Inc. and president of Underwater Wonderland Inc. The Oceanographic Institute is an organization formed for furtherance and study of oceanography with plans to eventually operate an oceanographic laboratory for research. The group hopes to have a fleet of ships for deep sea exploration. Oceanographic Development Inc. will establish Underwater Wonderland for studies of marine life in aquariums. Plans are currently to construct Underwater Wonderland in Texas.

His most recent underwater movie is a 16mm sound and color film produced for the New Orleans Grand Isle tournament. The NOGI film, entitled "Scuba Divers Safari," is available to clubs around the country by writing P.O. Box 127, New Orleans, La.

Jay's interest in spearfishing hasn't been completely dropped as a 176 lb. warsaw grouper put him in the lead for the King Spearfisherman title in the New Orleans Scuba Diving contest, and a 440 lb. jewfish won him a berth in the Bajaos 400 club. Jay holds a deep loyalty to his club, the Bajaos, saying they are a very active and democratic group of divers.

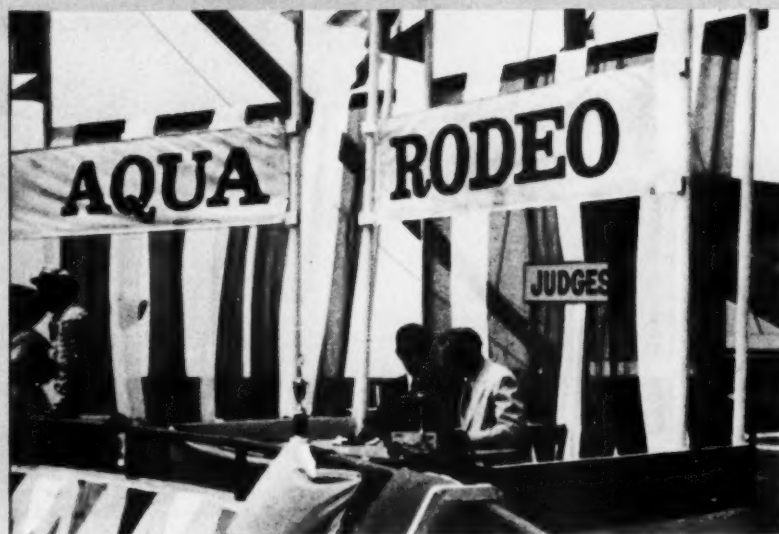
President of his business the Jefferson Lumber Company and Jefferson Salvage and Scrap Company, Jay holds the following offices in diving organizations: president Bajaos Skin Diving Club, director of Louisiana Council of Diving Clubs, president New Orleans Grand Isle Scuba Divers International Tournament, member of the Board of Governors of the Underwater Society of America, and special assistant to the Society president. He was appointed as the first vice-president in charge of scuba competitions but was forced to turn the office over because of time consuming duties with the Society fund raising campaign. While serving as vice-president of competitive scuba diving, he drew up the basic rules for the National Scuba Triathlon contest.

Jay will be visiting many SDM readers in the next few months and asks for your assistance in the campaign. ■



# N.B.C. T.V.'s 2nd Annual

WITH  
ROY ROGERS  
DALE EVANS  
COMPETITIVE DIVERS  
Coordinated by  
"SKIN DIVER MAGAZINE"  
On The  
DINAH SHORE  
CHEVY SHOW



"Skin Diver Magazine's" John Gaffney (left) and Marineland's head diver, Jake Jacobs, compare results of the previous event. Roy Rogers and Dale Evans watch from far left. (Note TV Monitor before judges which allows viewing of divers underwater.)

The colorcast of the "Chevy Show's Second Annual Aqua Rodeo" will be shown on NBC-TV Sunday, January 15 (9-10 p.m. EST/PST, 8-9 CST). Five two-man diving teams will participate, each team having been selected from five of California's top competitive diving clubs. Clubs represented are The Sea Bears, Long Beach

Neptunes, The Muirmen, Kelptomaniacs, and the Nisci Kelp Tanglers. Each team is to be judged on performance underwater and time. Members of the winning team will share the five hundred dollar prize. One diver on each team is an expert snorkel diver and the other a top scuba man.



Bob Melstrell of Dive N' Surf helps Roy Rogers adjust scuba for Roy's dive into the 540,000 gallon main tank at Marineland of the Pacific.



Photos by Bob Weaver

SEE YOU  
ON T.V.  
JANUARY  
15

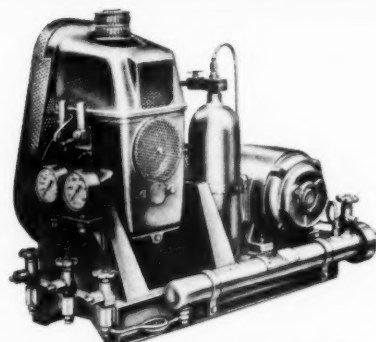
# NEW PRODUCTS FOR 1961



**NEW VOIT CORVEL® TANK FINISH**—The Voit Rubber Corp. has introduced an exclusive new tank finish that obsoletes all other protective finishes. Corvel® Vinyl Fusion Bond Finish successfully resists corrosion, chipping and peeling by providing the toughest, most water resistant protection ever developed for a diving tank. The white vinyl coating is actually fused to the tank by a unique process designed to eliminate the disadvantages found in traditional galvanizing and painting. All Voit safety tanks will have the Corvel® Vinyl Fusion Bond Finish.



**AQUA MASTER SNORKEL**—A new concept in snorkel design. The mouthpiece of the new "Aqua Master" snorkel is very comfortable and efficient. Made to fit the various contours of the mouth much more closely than ever before, to give maximum comfort and fit in the diver's mouth. The tube will be slightly longer and with more flexibility to prevent fouling in marine growth. Weight of this snorkel has been reduced considerably to add to the comfort. "Aqua Master" Snorkel—Black, Yellow, Blue. Price \$1.95. A produce of U. S. Diver Co.



**MA-1 AEOLUS AIR COMPRESSOR**—This unit will fill a 70 cu. ft. tank to 200 PSI in approximately 10 minutes with pure breathing air. Capacity is over 6 CFM at 3000 PSI. The Aeolus has been designed with reliability in mind and yet most maintenance can be performed on the spot eliminating costly down time and expensive factory overhauls. Write Kimex, 1018 Crockett, Harlingen, Texas.



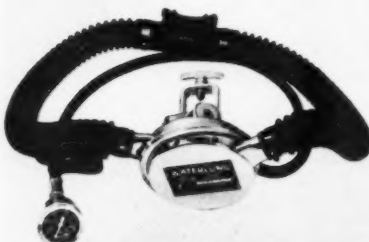
**APOLLO**—"Totes" short shirt. All gum rubber, no seams. Perfect to "kill the chill" for divers and water skiers. Price \$9.95 from "totes" dealers everywhere, or inquire direct to So-Lo Marx Rubber Co., Loveland, Ohio. (Photo Cypress Gardens.)



**SURCOUF**—This boat is suggested as ideal for skin diving as well as a ship-to-shore boat. A special crossbar has been developed for this inflatable boat to attach outboard motors which makes the SURCOUF (Surfrider) "a skin diver's dream." Retail price of \$150 includes two padded back rests, two seats, wooden flooring, repair kit, fittings for mast, canvas carrying bag, foot air pump and four valves. Collapsible double-bladed paddles are \$4.95 each. Further information may be obtained from Kayak Corporation of America, Inc., 206 East 86th Street, New York 28, New York.



**AUTOMATIC DECOMPRESSION METER**—A precision instrument that functions automatically just like an "electronic brain," continuously registering and retaining the memory of repetitive and multiple depth dives for six hours, calculating and indicating depth and time for decompression purposes appropriate for every dive. The Automatic Decompression Meter duplicates your body function and takes guesswork out of your dives. Retail \$49.95. HEALTHWAYS, 3669 Seventh Ave., Los Angeles 18, Calif.



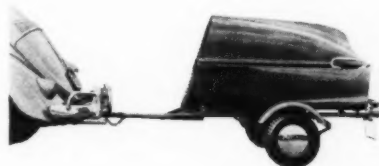
**"DUAL AIR" WATERLUNG**—Features the Waterlung First Stage with a Second Stage housing that encases a specially enlarged Diaphragm and Venturi action design, affording unequalled breathing sensitivity. "Dual Air" provides ease of breathing at depths. Including "Hookah" and Sea-Vue Gauge connectors. "Dual Air" Waterlung, Retail Price: \$90.00, with Sea-Vue Pressure Gauge, Retail Price: \$115.00. Sportsways, Inc., 7701 E. Compton Blvd., Paramount, California.



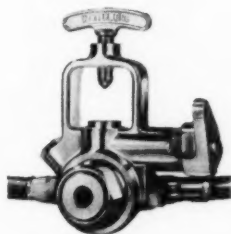
**THE RONDINE JUNIOR**—Professional-type fins especially created for young people in sizes 2-3, 3-4 and 4-5. Exceptionally lightweight and comfortable, and made of special compound blue rubber. Retail \$5.95. HEALTHWAYS, 3669 Seventh Avenue, Los Angeles 18, Calif.



**THE RONDINE ADJUSTABLE**—The new Rondine adjustable fin was created for the discriminating diver who prefers an adjustable strap. The comfortable contoured strap and the safety locking buckle plus the exclusive Cressi Rondine fin blade design make this the finest adjustable fin in the world. Made of special compound black rubber. Small \$3.95. Medium \$4.95. Large \$5.95. HEALTHWAYS, 3669 Seventh Ave., Los Angeles 18, Calif.



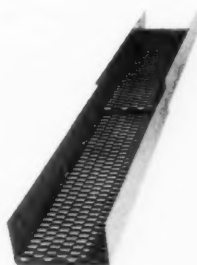
**THE IMP**—Here's a craft that has an unusual appeal to the skin diver. Trailing behind an auto, the IMP provides ample storage space for transporting diving gear and, once to the destination, it unfolds easily and locks securely into a sleek nine foot boat. This is just the thing for a trip to Mexico or any long haul over rough roads where once at your destination, a boat is necessary. The IMP is manufactured by Pak-Craft Co., 2774 East Walnut Street, Pasadena, California.



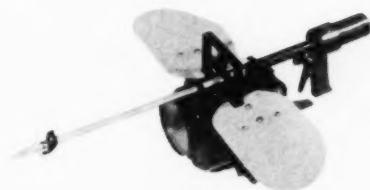
**SPORTSWAYS "NAVY UNIT" WATERLUNG**—Incorporating an integral 300 PSI spring-loaded constant reserve! Can be used with any tank. "Navy" unit includes "Hookah" and Sea-Vue Gauge connectors, as well as Manual Control Clearing Button. Navy Unit Waterlung, Retail Price: \$95.00 with Sea-Vue Pressure Gauge, Retail Price: \$120.00. Sportsways, Inc., 7701 E. Compton Blvd., Paramount, California.



**SCUBA-STAR Single Hose Two-Stage Regulator.** The Scuba-Star regulator is made of stainless steel, monel and brass materials exclusively throughout. A depth compensated automatic air reserve has been engineered into the Scuba-Star. The second stage housing features a corrosion proof Epoxy coating over brass, which is impervious to salt water and the elements. The "Quik-Klip" allows immediate removal of cover to facilitate inspection and maintenance and insures a positive diaphragm seal. A safety relief valve is incorporated into the first stage, eliminating the possibility of over-pressurizing the regulator. Retail \$32.50. HEALTHWAYS, 3669 Seventh Ave., Los Angeles 18, Calif.



**A NEW ADANCE** in rifle sections has been developed by Portable Drill and Dredge Company of Pomona, California. The new design in rifle section allows for hundreds of individual rifles with a separate action in each rifle, leading to higher efficiency in recovery. These sluice boxes come in three standard sizes, 12 x 48 inches, 16 x 96 inches, 20 x 96 inches. Custom sizes up to 48 inches wide in 8 foot segments are available. Prices upon request. Portable Drill & Dredge, 776 West Monterey Street, Pomona, California.



**WESSMAN MFG. INTRODUCES** the Mark 400 Aqua Movie Master—enabling both novice and expert to capture their underwater adventures on film to share with others. Gun optional for protection or filming catch! The Mark 400 is designed for both Eumig and Brownie 8mm cameras with W/A lens. \$99.95 from Wessman Mfg., 2156 Pacheco, Concord, California.



**CALYPSO REGULATOR**—A balanced first stage provides constant pressure to second stage and gives same breathing ease regardless of tank pressure and at any depth. Second stage allows any excessive air from first stage to escape without interfering with diver's breathing requirements. Complete with clearing button, swivel attachment for hose, neck strap and a permanent pressure gauge built in the first stage. Price \$70.00. A product of U. S. Divers Co.



**"CAM-PAC"**—All New! Cam-action release permits mounting on, or removal from tank in seconds . . . with absolute ease. Engineered for body-contour, ease-of-handling and rugged durability. Plastic coated all metal backplate designed to provide absolute comfort. Features stainless steel Tank Band . . . comfortable Nylon Web Harness and Chest Strap . . . complete quick-release assembly. Retail Price: \$19.95. Standard with Sportsways Tank Assemblies . . . can be used with all tanks. Sportsways, Inc., 7701 E. Compton Blvd., Paramount, California.



**SURF LUNG**—A reduced replica of Capt. Cousteau's famous "Aqua-Lung" for the bantam frogman. The "Surf-Lung" is a Float which helps you stay at the surface without effort, and is equipped with an adjustable harness for a snug, comfortable fit. A special non-return valve snorkel built into the regulator housing permits you to breathe with your face underwater and prevents water from entering the breathing circuit. The mouthpiece is equipped with a non-return valve for easy clearing. A product of U. S. Diver Co.





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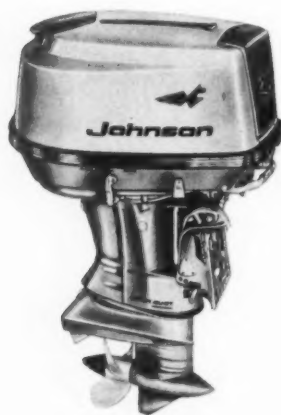
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**EVINRUDE MOTORS:** Two new models of the 75 hp V-4 plus advancements in many functional conveniences are the feature of the 1961 line of nine models introduced by Evinrude Motors. The 75 hp Starlite III has introduced temperature controlled fixed-jet carburetion, additional sound silencing principles and a Jetstream design that applies function to form. The Starlite III with the Uni-Charger is the luxury model which adds a high-output AC generator with a fully transistorized regulator to the features of the Starlite III. The Lark III, Evinrude's luxury 40 hp model, is next in line. A broad range of power is provided by other models which include the 40 hp Big Twin which gives big motor ability with the economy of manual starting; the 18 hp Fastwin; the trim, versatile "middle weight" of the line; the husky, trustworthy 10 hp Sportwin; the 5.5 hp Fisherman for quiet water diving and the 3 hp Lightwin stowaway motor for the diving dinghy. Good sound reduction has been obtained by lining the motor cover of the Lark III and

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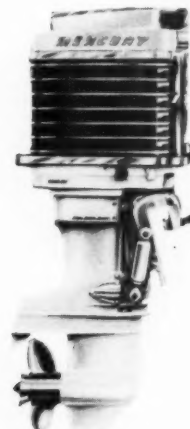
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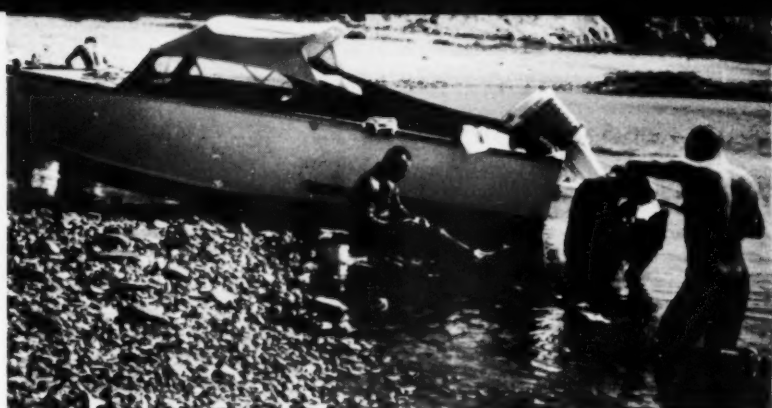
Johnson Super-Sco-Horse V-75A is the leader in the 1961 line of Johnson Motors. The engine has four cylinders arranged in a V and piston displacement is 89.5 cu. in. with a gear ratio of 20:23.



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Mercury's 80-hp for 1961 has full gear shift, lower unit incorporating forward, reverse and running neutral. Mercury also offers as a second 80-hp model, a direct-reversing engine.



Enjoying a relaxing day diving off the Florida Keys (left photo). Outboard motors open a wide world of adventure to these divers who are shown here in one of their camps some 200 miles into the Sea of Cortez, Mexico.

# 1 OUTBOARD MOTORS

By JOHN GAFFNEY

all other Mercs, the 60 has no shear-pin or drive pin to change, since it used a shear-proof spline propeller drive and a safety clutch to absorb impact. Automotive-type fixed-jet carburetors are standard on every Mercury for 1961. They will give a correct, predetermined fuel-air mixture for intermediate, cruising and full-load operation. Up to ten propellers are available as accessories for each motor.

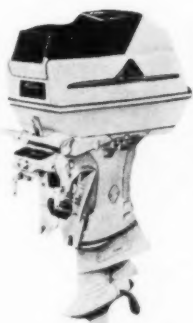
**JOHNSON MOTORS:** Two new Sea Horse 75s are the top performers of Johnson Motor's 1961 fleet of outboard motors. They claim the industry's first fully transistor-regulated alternating current generator available in a Super V-75A model. Like the special generators used in police cars, Johnson's AC generator is fully rectified to convert to direct current. You can now use your ship-to-shore radio, your depth-finder or electric compressor even while idling at anchor with no strain on the battery. The electric-starting V-75 is designed to accommodate an accessory "power master" generator. Both 75-hp models feature these new 1961 innovations: fixed high speed carburetor jets; two lever remote control; sound-smothering discovery for cover; panel light indicators; as well as many other features. New wrist-pin bearings are provided each model from the 10-hp upward; and all Sea Horses are protected by Johnson's painstaking anti-corrosion "armor". Johnson introduces the entirely new remote control assembly in 1961. It is a two-lever type throttle and gear shift, featuring two adjustment screws. One adjustment tightens or loosens the throttle friction to personal taste; the other ad-

justment is an idle stop setting which allows controlling the idle speed from the remote control position. The shift and throttle knobs are designed so as to be distinguished by touch, a large ball for the throttle, a smaller, knurled ball for the shift.

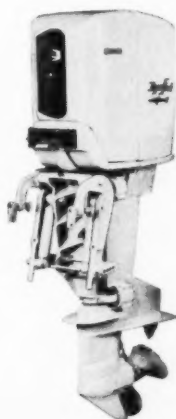
**GALE MOTORS:** The newest model in the Gale line is the Sovereign 40. It replaces the Sovereign 35 in a move to lend a "balanced-power" line of outboard motors comprising 11 models from 60 to 3-hp. Gale highlights the complete change in styling. The entire line stresses functional contours and distinctive simplicity. Gale's power pace-setter is the V-Sovereign precision engineered 60-hp, 4-cylinder V-design engine. Completing the line are six Buccaneer models at 40-, 25-, 15-, 5- and 3-hp. The new 40-hp Buccaneer has an automatic rewind starting mate in the Sovereign 40. The quick-disconnect electrical system is standard on all Sovereign models. The advanced "torpedo" unit is the principal innovation. Key change is a new half-spoon sized exhaust to reduce water disturbance. The revolutionary "torpedo" designed on the 1960 V-Sovereign, embodies a high performance gear in a streamlined housing that increases motor performance by reducing frontal resistance and water turbulence.

**SCOTT OUTBOARDS:** The leader of the McCulloch Corporation is the Flying Scott, America's only three-cylinder outboard motor. The Flying Scott is rated at 75.2-hp at 5200-rpm and features a carburetor on each cylinder. It gives faster accel-

(Continued on Page 80)



Gale 60-hp 4-cylinder V-Sovereign is the power pace setter of the Gale 1961 line. The above motor is one of eleven balanced power models.



West Bend's line includes the 80-hp 4-cylinder "Tiger Shark." Functional beauty is a highlight of the new line.



The 1961 Flying Scott, manufactured by Marine Products Division of McCulloch Corporation, is rated at 75.2 hp.



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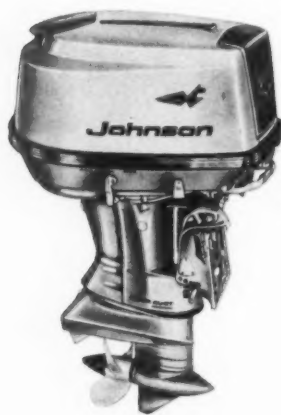
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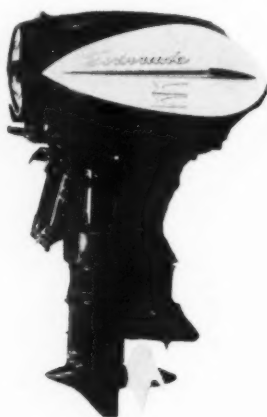
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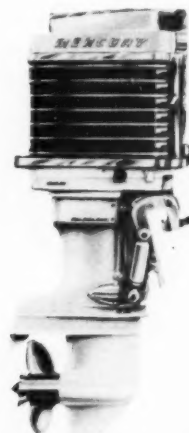
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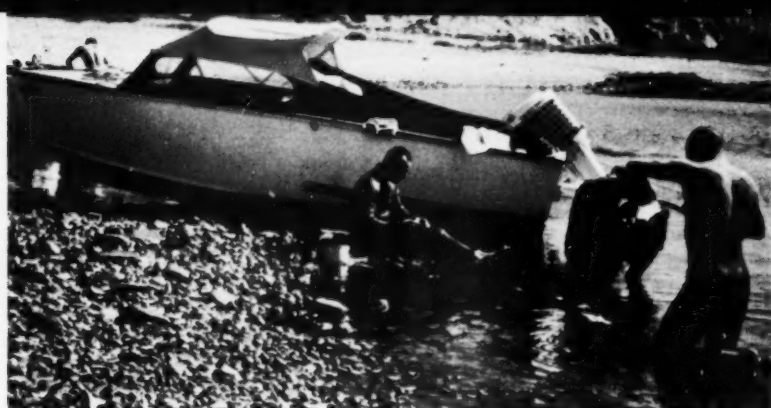


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Mercury's 80-hp for 1961 has full gear shift, lower unit incorporating forward, reverse and running neutral. Mercury also offers as a second 80-hp model, a direct-reversing engine.





Enjoying a relaxing day diving off the Florida Keys (left photo). Outboard motors open a wide world of adventure to these divers who are shown here in one of their camps some 200 miles into the Sea of Cortez, Mexico.

# 1 OUTBOARD MOTORS

By JOHN GAFFNEY

all other Mercs, the 60 has no shear-pin or drive pin to change, since it used a shear-proof spline propeller drive and a safety clutch to absorb impact. Automotive-type fixed-jet carburetors are standard on every Mercury for 1961. They will give a correct, predetermined fuel-air mixture for intermediate, cruising and full-load operation. Up to ten propellers are available as accessories for each motor.

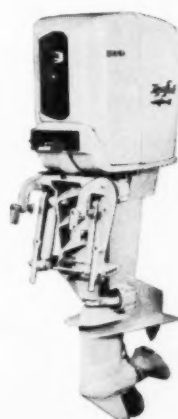
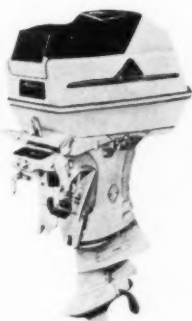
**JOHNSON MOTORS:** Two new Sea Horse 75s are the top performers of Johnson Motor's 1961 fleet of outboard motors. They claim the industry's first fully transistor-regulated alternating current generator available in a Super V-75A model. Like the special generators used in police cars, Johnson's AC generator is fully rectified to convert to direct current. You can now use your ship-to-shore radio, your depth-finder or electric compressor even while idling at anchor with no strain on the battery. The electric-starting V-75 is designed to accommodate an accessory "power master" generator. Both 75-hp models feature these new 1961 innovations: fixed high speed carburetor jets; two lever remote control; sound-smothering discovery for cover; panel light indicators; as well as many other features. New wrist-pin bearings are provided each model from the 10-hp upward; and all Sea Horses are protected by Johnson's painstaking anti-corrosion "armor". Johnson introduces the entirely new remote control assembly in 1961. It is a two-lever type throttle and gear shift, featuring two adjustment screws. One adjustment tightens or loosens the throttle friction to personal taste; the other ad-

justment is an idle stop setting which allows controlling the idle speed from the remote control position. The shift and throttle knobs are designed so as to be distinguished by touch, a large ball for the throttle, a smaller, knurled ball for the shift.

**GALE MOTORS:** The newest model in the Gale line is the Sovereign 40. It replaces the Sovereign 35 in a move to lend a "balanced-power" line of outboard motors comprising 11 models from 60 to 3-hp. Gale highlights the complete change in styling. The entire line stresses functional contours and distinctive simplicity. Gale's power pace-setter is the V-Sovereign precision engineered 60-hp, 4-cylinder V-design engine. Completing the line are six Buccaneer models at 40-, 25-, 15-, 5- and 3-hp. The new 40-hp Buccaneer has an automatic rewind starting mate in the Sovereign 40. The quick-disconnect electrical system is standard on all Sovereign models. The advanced "torpedo" unit is the principal innovation. Key change is a new half-spoon sized exhaust to reduce water disturbance. The revolutionary "torpedo" designed on the 1960 V-Sovereign, embodies a high performance gear in a streamlined housing that increases motor performance by reducing frontal resistance and water turbulence.

**SCOTT OUTBOARDS:** The leader of the McCulloch Corporation is the Flying Scott, America's only three-cylinder outboard motor. The Flying Scott is rated at 75.2-hp at 5200-rpm and features a carburetor on each cylinder. It gives faster accel-

(Continued on Page 80)



Gale 60-hp 4-cylinder V-Sovereign is the power pace setter of the Gale 1961 line. The above motor is one of eleven balanced power models.

West Bend's line includes the 80-hp 4-cylinder "Tiger Shark." Functional beauty is a highlight of the new line.

The 1961 Flying Scott, manufactured by Marine Products Division of McCulloch Corporation, is rated at 75.2 hp.

# DRIFTWOOD

Please address all notes, letters and stuff to:  
"DRIFTWOOD"  
Skin Diver Magazine  
Lynwood, California

"Now I am beginning to live a little, and feel less like a sick oyster at low tide."

—Louisa May Alcott

*Hello, you convivial oysters. I assume you all survived New Year's even if your unrealistic resolutions didn't. Although the mail this month is a reasonably salty floodtide of discontent, we ain't got any photos of fetching females and we ain't got A Conklin Report. You brood about this lack while I dump last year's coffee out of the pot and start a fresh brew simmering...*

Your reply to Laddie Topel, in the November issue, was justified and it is sad that so many teen-age divers share his opinion. Nevertheless, there are a few of us teen-age, will-be divers who count on and appreciate adult supervision to get us started in the right direction, and to help us to be able to handle ourselves in and out of the water. We respect your opinion, Carl, and, for the most part, it is true. We just want you to know some of us don't feel we are the greatest divers since Dumas—and we regret the snotty adolescents as much, if not more, than you do.

JOCK MILLER  
Arkansas City, Kansas

I'll buy that.



Here I am, sitting on my haunches, itching to go diving. I go in any kind of weather and in any kind of water, but the only trouble is—I have nobody to go with. The friends I used to go with have families and can hardly make it at all. So, would it be possible to drop a line (and my photo) in the column, asking for a scuba diving partner. I'm 23 and single.

ROBERT C. COOK  
25 Nelson Place  
Maplewood, New Jersey

*What's wrong with that brunette with the nice shoulder blades in the background? You can't get her interested in activities?*

What I would like to know is why the editors took your photo off the Driftwood Page, anyway? Or was it *your* idea?

BESS MACABEE  
Lompoc, California

*Hell, no, doll—it wasn't MY idea. Let's start a petition to get my face back before an adoring public.*

Kohler, I've dug your bit as being the most but, Big Daddy, you've goofed. Like you've squared the round-O. I've been making the Briny Scene for like 18-seasons and it's the coolest, but, man, I don't dig what you're putting down on star-mops. So it's like a square bit. The squares run the sphere and we come-on strong with the butter or with spreading grease by Star-mop bop and all those commercial bi-valve growers make with the toothy commercial bit. Most unhip Rod & Reelers (also Prop & Keel guys) give with the Yucca Flats jive, like A-blast, when we flipper flat flap and this doesn't make with togetherness so we Star-mop bop and the commerce cats are on cloud-9.

S/SGT. HENRY E. SMITH  
Montauk, New York

*Like if there's anybody I can't dig it's a hip, sniveling cooperater who plays to the commerce cats on a mercy bit for kicks. And how did that 18-year-old hipster manage to get his striders on this jetty, anyway? Next thing you know, this place'll be lousy with grumble and grunt wanting to use it for diving headquarters. Yeh, THAT'LL be the DAY!*

Being a (different) university student (I study), I naturally came across the sweet smell of adventure and I'm proud to call myself a scuba diver and a faithful hitch-hiker to Boston. Now, I would like to know what you do to the Atlantic to have it so beautifully green down there?

PAUL E. MARCOUX  
Fredericton, N.B.  
Canada

*How the hell would I know, living on the edge of the Pacific as I do.*

I'm 28-years old. I stand five-foot even. I weigh 120-pounds. My measurements are 39-25-37. I have black-hair and green-eyes. I have always wanted to learn how to skin dive, but I'm also rather afraid of the sport. After I saw your picture, awhile back, in your column, I decided you're a real man and just the kind of fellow I'd love to have teach me. The other girls are welcome to the boys: I want a mature man with some know-how. I'm willing to bet you'd made a swell teacher and I'm ready to start learning anytime you say. You might be interested to know that I'm an excellent cook and specialize in sea food dishes.

MARIE STEINER  
Inglewood, California

*Promises, nothing but promises...*

The British Sub-Aqua Club has had two fatal accidents in the whole of it's history. Accidents are caused by heretics the likes of you, Kohler.

G. S. WHITEHEAD  
Yorkshire, England

*Now that's a scruffy opinion if I ever heard one.*



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I'm not quite certain whether I'm addressing a characterization or a personification though, actually, it's immaterial. For many months my buddy and I have been avid readers of SDM and have been diligently scrounging up every copy we could beg, borrow or obtain. This problem was solved when I finally purchased a subscription. Since my buddy and I have spent most of our lives, when not in jail, on the west coast—we have done quite a bit of swimming and diving sans tanks. Though we both enjoyed it, we yearned for something else (like fast, easy money). This, we have found, doesn't work too well. Your magazine has helped convince us that it will be much nicer to live slower and take the time to enjoy the indescribable grandeur of the underwater world (among other things.) Since we are unable to get any practical experience—for awhile—I wonder if you would please suggest some books that cover the subject of scuba diving comprehensively, and/or any advice you may consider useful. Regardless of our unhappy incarceration years (since early teens), we are young enough (he, 27, and I, 22) to feel we can reintegrate ourselves with society, lead normal lives and still have a ball (10-fathoms or no).

R. D. K.  
San Quentin, California

*Almost all the existing books on skin diving have some good stuff in them. However, I would particularly recommend THE SKIN DIVER by Elgin Ciampi and BASIC SCUBA by Fred M. Roberts—and welcome to the Driftwood Jetty, fellas.*

In view of all the hard words you are getting from the squares of the world, my brother and I have singled you out for a great honor. Sometime ago, we came across a weirdo ambling along the bottom. Looked like a cross between a spider and an armored, animated pup-tent. After studying this oddball we yielded to basic bloodlust and mashed him to flinders with the butt of a speargun. We regret this action since we've never been able to identify or classify him. We feel this was, perhaps, a new species. In admiration of your literary contributions to the diving world (but mostly because the Thing was "Eeetch!"), we have named this species *vulgaris incredibilis kohleri*.

THE MERRIGAN BROTHERS  
Penticton, B.C., Canada

*Hey, if anybody finds another one—don't mash it: I want one for a mascot.*

I told my smart-alec husband you are a turncoat at heart! So now you're a member of a 3-member diving club! I told my husband we'd see the day when you contradicted yourself and accepted membership in a club! I told him and he wouldn't believe me, but I was right!

EDITH CONELLEY  
Chicago, Illinois

*Yeeesh—Conelley, congratulate her and get her off both our backs, eh?*

How come you—the militant individualist who has led a brave war against Clubism—joined that 3-man diving club? I am disillusioned and I'm going to go out and join a club, start taking my wife diving and weakly give in to all the other vices of Togetherness.

VANCE LINK  
Los Angeles, California

*Oh, I have it on excellent authority that we FLIPPER FLOPPERS aren't really a club: we're more of a gang albeit the most wholesome gang in the entire, stinkin' world.*

You have done a very nice job of completely upsetting my young son with your unkind remarks about teen-age skin divers. He was the very soul of confidence and constructive-thinking until he began reading your nauseating column, and now his attitude has changed immensely to the negative regarding authority of any sort among those who engage in the underwater sports. I hold you responsible for damaging the respect and trust my son once held for men who supposedly know what they're talking about as pertains to skin diving activities.

MYRNA YOUNG  
Philadelphia, Penn.

*Aw, now that's a real shame.*

Kohler, here's a little friendly advice: get off the women (to dive or not to dive) kick. Your column is crummy enough without filling it with letters from frustrated females mooning over their status in a sport which belongs to men. I'm worn to the nub, reading of how love triumphed over seaweed or vice versa. To your Editor, I have this to say: my subscription will be cancelled if I read many more "pretty picture stories." The whole bit is so hackneyed that I can't imagine your printing them. These stories of "impressions of the deep" should be given the deep-six for keeps.

HOWARD COOLEY  
East Hartford, Conn.

*Yeeesh, what a grouch . . .*

SKIN DIVER—January 1961

I have read your crazy remarks and think they are funny, except on one subject: Women Divers Should Stay Home. What I would like to know from these women-haters is—WHY? I go skin diving on the *Golden Doubloon* with my husband, and the men are very friendly and, sometimes, helpful. Anyway, if your wives dive with you, at least they can't nag you. The only thing I can figure out from all these jerks who don't approve of bringing their hard-working wives with them is that there must be a mermaid somewhere—and it's inconvenient to have a wife along. So put that in your tanks and breathe it awhile!

JOAN LOIS COOK  
Torrance, California

*Well, lady, that could be one of the reasons. Another might be that real men just enjoy an occasional dive-outing without the little woman around. Most of the divers I know are far from being women-haters, but they cannot very well spit a lot, talk dirty and relax as men should—with ladies around. Even though you girls and your Madison Avenue cohorts have managed to louse up the country's economy—it's still a man's world due to natural law. Tough, ain't it?*

For the record—I'm wid youse! Broads have no place on a diving trip. Married ones just go along to keep tabs on the old man, while single dames go only for masculine company—not out of interest in diving. Think not? Ever hear of very many groups of dolls getting together in order to go skin diving? Women double the expense and bisect the bottom-time. They cry, complain and generally raise hell. They stop our dirty ballads and make sarcastic remarks about our Tarzan-grass when we aren't shaven. A woman on a diving trip is as out of place as Paladin at a W.C.T.U. meeting!

BEN DUGGER  
Montgomery, Alabama

*Amen, brother.*

Ox-scuza me, pleez, bot I getta da terreef-fica keeka outa de anzwers you deesha-up to-a fresha keeds! Geva it to heem! Areeva-derchy to youa!

LOUISE (Loocy-de-Lippa) McDUGALL  
Cardiff-By-The-Sea, California

*Lou, if you don't stop flirting with me, I'm gonna come down there, wine you, dine you and charm the living daylight outa you.*

Kohler, I know you seldom (if ever) hand out anything resembling sane advice in your column, but I have been told you're the father of several sons and—as one father to another—I'd like to have your opinion on the following: My twin, 13-year-old sons have been nagging me for months now to teach them scuba diving. I've hesitated, wondering if I should. Both boys are very good snorkel divers and (as far as I know) observe all the safety-rules with a maximum of respect. Do you think they are old enough now to be taught scuba diving—particularly if I supervise their instruction? I'm a professional diver and I've had sufficient scuba experience to be considered as much an authority as anyone else on the skin diving scene.

JEROME KURSH  
San Francisco, California

*Jerry, it's your responsibility and your decision as to whether or not you teach your youngsters scuba diving. However, I'll tell you this: I don't intend to let my boys touch scuba until each of them is seventeen years of age. As a guy who has been diving almost continuously for more than twenty-five years, I have a longstanding and very profound respect for skin diving and the water. It's my opinion the ability to control panic (and who can say just when panic, due to any number of conditions, will or will not suddenly develop) increases with maturity as does judgement and physical skill. Now will you assist an aging expert down off this sodden soapbox! Good luck, whatever you decide.*

I've been reading my brother's copies of SDM for quite awhile now and I've followed your nutsy page with unbelieving eyes. You seem to have gathered all the screwballs in skin diving together—and I must admit it makes for darned fascinating reading. Is there any controversy you people are afraid to tackle?

WILMA ANN WILLIAMS  
Long Island, New York

*Yeh, there are quite a few, honey. We prefer to stick with safe subjects like sex, religion, politics and surfing.*

*. . . and now that you've been warmed by jetty java and the dissenting outcry of intrepid neurotics, surely you'll cast common sense to the vagrant winds and trundle yourself out here again, next month, won't you? Where else can you spend a wretched hour with so many impossible types? See you next time—and don't forget to bring some kind of a nut with you, hear?*

KERNEL KOHLER & COMPANY



# OPERATION BULLDOZER

By  
**RICHARD H. RICE**

**G**ARY COOPER, of Hayward, California, and I had just organized a diving club, the HAFB Gators, on Homestead Air Base, Florida. We wanted to enlarge our club membership for two reasons. One, the recreational service office on base would grant us sufficient funds to purchase diving gear if we had enough members to warrant such a grant. Two, we had to justify the need for our skin diving club for reasons other than recreational. To do this we needed some very favorable publicity.

For several days Gary and I pondered over various ways of creating a publicity stunt but neither of us seemed to be able to come up with one. Then one morning when I was at work I received a phone call from Gary. He was very excited. He had just received information from the base Installations Engineering Office that one of their D-6 caterpillars (weighing 4,450 lbs.) had fallen into a water-filled stone quarry. They wanted to know if we would help them recover it. It looked as though the publicity we wanted had just come to us.

Gary advised me that he would fill our scuba bottles at the Florida Frogmen shop in Kendall. When I arrived there Gary had already filled the bottles with air and was busy loading them into the trunk of his car. He told me that as far as he knew the caterpillar was down in about ten to fifteen feet of water. The job appeared to be an easy one. Cooper and I hurried off to the quarry, anxious to see what we were in for.

Neither Gary nor I had ever salvaged anything as heavy as the caterpillar was alleged to be. We were filled with

excitement at the opportunity that awaited us. When we arrived at the scene we were appalled at the sight that greeted us. The quarry was being used as a trash dump. Barbed wire, tin cans, broken glass and other hazardous materials were scattered about the area and the water, much to our dismay, was filled with the same type debris. We looked at each other afraid to express our thoughts aloud.

The water was so dirty that when Sgt. Spears, the noncom in charge of the heavy equipment section, pointed to the area where the caterpillar lay submerged we could see nothing but floating filth and trash. Sgt. Spears had made several valiant attempts to connect steel cables to the sunken cat but due to the fact that he had no scuba he could not remain under long enough to accomplish the task.

Spears told us that the cat lay at about a fifty degree angle and that the bank had caved in on top of it. He had secured another caterpillar and a heavy crane and had them placed in position so that when we hooked cables to the sunken machine it could be pulled out with comparative ease.

Cooper and I donned our diving gear over heavy clothing and put on protective shoes to guard us from the sharp obstacles that awaited us. With all the gear on we were quite heavy and could not enter the quarry safely from the bank. The crane operator lowered his cable to us and we stood on the hook as he transported us over the water into a position directly over the cat. We had decided to work our way into a position aft of the cat where we could hook the cable into the tow bar. We signaled for the operator to lower the boom. As the hook neared the surface we placed the scuba into our mouths and gave them a last minute safety check.

As our heads began to submerge the light of day swiftly faded to muddy brown then to a blackness that neither

of us care to experience again. It seemed like we had suddenly gone blind. Our only contact with the world above was the steel cable from the crane. We held onto it firmly.

As we went deeper the silence was broken only by the screeching of our regulators as we demanded air. Suddenly, with a thud, we came into contact with the metal hulk that was the caterpillar. I worked my way toward the rear of the cat where I thought I would be able to find the tow bar. (I could hear Cooper working near me but I could not contact him) Pushing through trash and debris I finally bumped into what felt like the bar but I couldn't locate the cable connection on it.

Suddenly a cold current of water engulfed my body and the bottom of the quarry seemed to give way beneath my feet. I reached out blindly into the hellish darkness, my hand struck the tread of the caterpillar tracks and with a supreme effort I pulled myself up onto the tread in case the cat slipped farther down. The portion of the bank that caved in with the caterpillar had loosened when Cooper and I were attempting to remove trash from around the tow bar.

I waited a few seconds to regain my wits then I started towards the rear of the cat. When I reached the tow bar I could hear Coopers regulator humming away and I knew that he was all right. With appropriate signals I let him know that I wanted to ascend. We grabbed the cable and headed toward the surface. What a wonderful feeling it was to see daylight. We signaled to the crane operator and he swung us onto the bank where we felt the welcomed steadiness of the dry earth beneath our feet.

We talked with Sgt. Spears and told him that we needed something to help us clear the trash and rubble from around the tow bar or we couldn't

hook up the cable properly. We were also concerned about the possibility of cutting our hands on the broken glass and barbwire around the cat. (Several times I had felt the sharp edges of bottles brush past my hand as I shoved trash away from the bar.) In short order Spears produced two large pitchforks and a couple of shovels. We returned to the sunken cat but still couldn't clear enough of the debris away to hook up the cable. Our air bottles were running low and we knew that we must connect soon or it would take us another day. Time was running out.

Back again to the surface and the helpful directions of Sgt. Spears. After much discussion it was decided that we would take a chance and hook the cable to the exposed treads of the cat. If we were successful the cat could be raised high enough for us to hook the cable to the tow bar, then it would be a simple matter for the crane and the caterpillar on the surface to pull the machine out.

As we entered the water for the third and last time Sgt. Spears went along with us, wearing only his mask, to give us a hand connecting the cable properly. When I came into position by the tread Sgt. Spears grabbed my hand and placed it through the tread where the cable would be the most effective. When he was sure that I had the cable hooked up he shot to the surface and gulped the air his lungs were bursting for. Cables secured in place Gary and I surfaced and signaled for the crane operator to begin lifting the hulk from its grave. Due to the fact that the cat was resting at an almost vertical angle it took but a few feet of cable to expose the rear end of the machine above water. Once clear it was a simple matter to attach the cables from the crane and caterpillar on shore to the cat in the water. In a very short time the water logged caterpillar was again safely on dry land.

Major Robert Callahan Jr., Officer in Charge of the Installations Engineering Office, had been standing by during the entire operation and the relief that was written on his face when he saw the caterpillar safely back on dry land was reward enough for our efforts.

Although both Gary and I were equipped with scuba we would never have completed the task in such a short time without the help of S/Sgt. Frank Spears. In less than three hours we had saved the Air Force and the tax payers almost thirty thousand dollars. Needless to say we were granted the money for the diving gear and we now have an active membership of over seventy persons.



**GOING UP . . .**



**AND UP . . .**



## LAKE ERIE . . .

# TREASURE

By  
RICHARD J. WRIGHT

# TROVE

THE WORD TREASURE usually denotes Spanish gold, pirates, and other fanciful subjects. If one were to look for such things on the Great Lakes, one would be sadly disillusioned. There is treasure to be found there, for sure, but not in these adventurous sounding terms.

So far as skin diving is concerned, Lake Erie is perhaps the worst one of the Five Sisters because of the unpredictable weather and the poor visibility. But it is the most lucrative lake for searching for sunken wrecks. More ships have been lost on Lake Erie than on any of the others. One reason for this is the comparative shallowness of the lake. It requires less wind and consequently, less time, to stir Lake Erie into a wild frenzy of white water. Also, due to a fairly regular coastline, there are fewer bays and points of land behind which ships can seek shelter.

Also, one must remember that Lake Erie was the main avenue of commerce and communication for almost a century—the century in which the Midwest was being developed. The terminus of the Erie Canal was at Buffalo, New York, and the Welland Canal, connecting the Upper Lakes with Lake Ontario and the Atlantic Ocean, both ended on the eastern shores of this unpredictable lake. Consequently, this was the basic route taken by immigrants on their way to form new homes and new communities in the New World.

Due to poor navigational instruments, irregular government inspection of boilers, lack of weather forecasting, and other modern safety devices, vessels were lost at an alarming rate. Most of these losses were the result of storms, fire, fog, or poor judgement on the part of navigators. Most of the car-

goes that were lost were of the bulk type: iron ore, coal, lumber, wheat, industrial sand. But a few lost cargoes would set the imagination of any skin diver afire; passenger ships with the baggage compartments untouched, lead, copper, valuable lumber such as walnut.

Following is a list of forty ships lost on Lake Erie that a fortunate skin diver may some day stumble across. Or, this list may be used as a basis from which a skin diver may begin research on "his" wreck. No one can say exactly what cargo is on each wreck, for there is only one certain way to determine this, and that is to actually check it yourself. But this list will at least tell the diver perhaps what to expect, approximately where to look, and when in history to begin his research which will, we hope, ultimately lead him to his BIG MOMENT.

1. Sloop DETROIT, wrecked 3 miles north of Erie, Pa., 1797, with military equipment on board.
2. Schooner SYLPH, lost off North Bass Island, May 12, 1820, with cargo of barrelled whiskey.
3. Schooner LAGRANGE, foundered 7 miles off Point Pelee, Ont., November 11, 1835, with cargo of whiskey.
4. Steamer KENT, sunk by collision, 7½ miles below Point Pelee, Ont., August 12, 1846; passenger ship, with mixed cargo.
5. Schooner LEXINGTON, foundered off Huron, Ohio, November 19, 1846, with cargo of 110 barrels of whiskey.
6. Steamer CHESAPEAKE, sunk by collision, 2 miles northeast of Conneaut, Ohio, June 7, 1847; passenger ship, \$8,000 in specie known to be aboard.
7. Schooner JOHN PORTER, sunk by collision, 5 miles northeast of Conneaut, Ohio, June 7, 1847; cargo of wheat.
8. Steamer ANTHONY WAYNE, sunk by boiler explosion, 8 miles off Vermilion, Ohio, April 28, 1850; cargo of whiskey.
9. Steamer COMMERCE, sunk by collision 3 miles off Grand River, Ont., May, 1850; passenger ship.
10. Steamer ATLANTIC, sunk by collision, 5 miles off Long Point, Ont., August 20, 1852; passenger ship.
11. Steamer ST. LOUIS, wrecked on Kelley Island Shoal, November, 1852; passenger ship.
12. Steamer H. A. KENT, burned and sank 15 miles off Gravelly Bay, Ont., May 24, 1854; passenger ship, mixed cargo.
13. Steamer JERSEY CITY, sunk by collision off Long Point, Ont., November 23, 1860; mixed cargo.
14. Steamer MORNING STAR, sunk by collision, 30 miles northwest of Cleveland, Ohio, June 21, 1868; passenger ship.
15. Schooner S. F. GALE, foundered 18 miles northwest of Cleveland, Ohio, November 28, 1876; cargo of stone.
16. Steamer BRUNSWICK, sunk by collision, just east of Dunkirk, N. Y., November 12, 1881; cargo of coal; ship built of iron.
17. Schooner BELLE MITCHELL, foundered 22 miles west-southwest of Long Point, Ont., October 14, 1886; cargo of wheat.
18. Schooner GEORGE M. CASE, foundered 8 miles southwest off Long Point, Ont., October 14, 1886; cargo of corn.
19. Schooner JAMES F. JOY, foundered 2 miles north of Ashtabula, Ohio, October 23, 1887; cargo of iron ore.
20. Bark C. P. SHERMAN, foundered 5 miles southeast of Long Point, Ont., March 14, 1887; value estimated at \$10,000.
21. Steamer PHILIP H. WALTER, foundered 4 miles northwest of Lorain, Ohio, June 20, 1887; cargo of stone.
22. Schooner TWO FANNIES, foundered 10 miles northwest of Cleveland, Ohio, August 10, 1890; cargo of iron ore.
23. Schooner CHARGER, sunk by collision 2 miles northeast of Pelee Island, Ont., August 7, 1890; cargo of iron ore.
24. Steamer DEAN RICHMOND, foundered 4 miles northeast of Dunkirk, N. Y., October 14, 1893; cargo of wheat, copper ore, and spelter; value estimated at \$300,000.
25. Steamer IDAHO, foundered 10 miles southwest of Long Point, Ont., November 6, 1897; mixed cargo, value estimated at \$100,000.
26. Steamer NIAGRA, foundered 10 miles east of Long Point, Ont., December 6, 1899; cargo of lumber and pig iron.
27. Steamer JOHN B. LYON, foundered 7 miles northeast of Conneaut, Ohio, September 11, 1900; cargo of iron ore.
28. Steamer C. B. LOCKWOOD, foundered 13 miles north-northwest of Fairport, Ohio, October 13, 1902; cargo of wheat.
29. Steamer WILLIAM H. STEVENS, burned and sank, 25 miles off Clear Creek, Ont., September 8, 1902; cargo of flax and copper.
30. Schooner YUKON, foundered 3 miles north of Ashtabula, Ohio, October 20, 1905; cargo of iron ore.
31. Schooner TASMANIA, foundered 4 miles south of Pelee Passage Light, October 20, 1905; cargo of iron ore.
32. Steamer JOHN PRIDGEON, JR., foundered 14 miles northwest of Cleveland, Ohio, September 18, 1909; cargo of coal.
33. Schooner EMILY B. MAXWELL, foundered ½ mile north of Cleveland, Ohio, August 31, 1909; cargo of lumber.
34. Steamer MARQUETTE & BESSEMER NO. 2, steel car ferry, foundered off Long Point, Ont., December 7, 1909; mixed cargo, value estimated at \$150,000.
35. Steamer JAMES B. COLGATE, foundered 18 miles south of Port Stanley, Ont., October 20, 1916; cargo of coal; whaleback type steel ship.
36. Steamer MARSHALL F. BUTTERS, foundered 10 miles southeast of Southeast Shoal Light, October 20, 1916; cargo of lumber.
37. Schooner D. L. FILER, foundered 3 miles east of Bar Point Light, October 20, 1916; cargo of coal.
38. Steamer GEORGE J. WHELAN, foundered 6 miles east of Dunkirk, N.Y., July 29, 1930; steel sand dredge.
39. Steamer SAND MERCHANT, foundered 13½ miles northwest of Cleveland, Ohio, October 17, 1938; steel sand dredge.
40. Steamer FRANK E. VIGOR, sunk by collision, April 27, 1944, 29 miles due east of Point Pelee, Ont.; steel crane ship, cargo of sulphur.



## UNDER THE NORTH POLE

Seadragon frogman Earl J. Crowley, TM1 (S5) USN, a member of the underwater photography team, swimming under the arctic ice in the first photos ever made of the under side of the North Pole. Completely mastering the danger of huge ice bergs with new electronic gear, the Seadragon cruised steadily on nuclear power deep beneath the lens of ice and extreme Arctic cold. (Official U.S. Navy Photo.)



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# PACIFIC SHELLFISH POISONING

By JAMES ERNEST HAY

MANY skin divers who dive the coastal waters are continually trying new and unusual foods from the sea. Because of the skin diver's unique ability to gather these sea animals and shellfish on a year-round basis, it would be well for him to know something of the etiology, prevention, and the first aid treatment of shellfish poisoning. Shellfish poisoning is caused by eating clams or mussels which have ingested the dinoflagellate *Gonyaulax catanella*. This protozoic organism produces a chemical, *mytilotoxin*, which is one of the most deadly alkaloid poisons known to man.

The poisoning occurs only during the warm summer months. At this time, three variables serve to dramatically increase the amount of protozoic life found near the shore line. The sun's rays become more intense, the temperature of the surface water rises a few degrees, and cold nutrient waters from the ocean depths well up near the coast line. Some species of protozoa feed in animal fashion by ingesting smaller organisms, while others, like *Gonyaulax*, feed like plants by photosynthesis from sunlight. The plant feeders benefit directly from the additional sunlight, warmth and nutrients available; the animal feeders benefit indirectly by ecological means.

In the minds of many, the "Red Tide" and "shellfish poison" are synonymous. There is a grain of truth in this, for *Gonyaulax* can produce a red tide. There are, however, a number of other protozoa which can also produce the same effect. This mental association is further strengthened by the fact that some Red Tides kill fish and shellfish. They do this, not by some un-

known toxic poison, but by a series of effects from an ecological relationship.

A good example of this is the famous "Red Tide" which occurred off the Southern California coast in 1945. During the first half of June, the sea turned a vivid red color from San Luis Obispo south to Los Angeles Harbor, and on June 19 dead shellfish were found in Santa Monica Bay. The period of mortality lasted for five or six days after that and reached a peak on the fourth day. It was estimated by the Fish and Game authorities that four to five tons of lobster were killed. In addition a tremendous number of crabs and fish of all types were killed or affected.

By examination of shellfish viscera and analysis of water samples from various points along the California coast, the Fish and Game Department determined the series of events which probably had taken place. Water samples from Santa Barbara and Pismo Beach contained large numbers of almost pure cultures of the dinoflagellate *Ceratium* (probably *C. tripos*). *Ceratium tripos* is a strongly colored, photosynthesizing type of flagellate. It was undoubtedly this species which was responsible for the "Red Tide" during the early part of the month. But on the day of the highest mortality rate, June 23rd, the water was of nearly normal color with only isolated red streaks. Water samples taken at Crystal Pier in Santa Monica contained an unusual amount of the dinoflagellate *Polykrikos schwartzi* (10,000 to 50,00 per liter) with very few other species of dinoflagellates or diatoms present (with the exception of an unusual amount of *Ceratium*). Water samples

from as far south as Redondo Beach showed essentially the same picture although the number of organisms was smaller. *Polykrikos* is a large, faintly colored, colonial organism which feeds upon other dinoflagellates and diatoms. A large mass of this species would logically presuppose the occurrence of some other species in large numbers as food.

*Polykrikos*, being an animal type feeder, requires oxygen. It would be expected that a mass culture of this organism would deplete the water of oxygen. It is, therefore, quite likely that the death and debilitation of fish and shellfish in the Santa Monica area in 1945 came about, not by a toxic poisoning from some unknown organism, but rather by asphyxiation from lack of oxygen through an ecological course of events.<sup>1</sup>

The first recorded cases of shellfish poisoning on the Pacific Coast occurred in the exploring party of Captain Vancouver in 1793 near the island that now bears his name. While outbreaks have been sketchily recorded through the years, undoubtedly the most dramatic occurrence of such poisoning was the instance in late July or early August of 1799, when over one hundred Aleut hunters died within a few hours after eating black mussels which they had gathered along the Alaskan Coast between Kodiak and Sitka. The strait where this party camped has since been known as Peril Strait.

There are no reliable records of the cases occurring prior to 1927, and the California State Department of Public Health epidemiological notes and tables start with that year; possibly because 1927 set an all-time record for

the state with 103 cases of poisoning; of these, 102 were in the San Francisco area during the month of July.

An examination of records<sup>2</sup> shows a significant limitation to locale. Of the 422 known cases along the Pacific coast, all but 49 were in California. Of these, all but 32 were in Central California. The remaining 341 cases occurred from Sonoma to Monterey Counties. Of the 373 California cases, 352 were caused by mussels, 21 by clams (primarily Washingtons and Pismos) and 1 by abalone. This latter case was a death reportedly caused by eating poisoned abalone in Sonoma County in April, 1932. However, since the abalone is not a plankton feeder, and since its viscera is never consumed, it does not seem possible that abalone can cause shellfish poisoning. It is apparent that the reported death was caused by some other agent. This brings into sharp focus some problems inherent in attempting tabulations of this nature. There have undoubtedly been cases which have been misdiagnosed in the past when the symptoms were less widely known. Also, it would be difficult to estimate the number of slight cases which were never seen or reported by an attending physician. It is therefore likely that there are other errors in the tabulation, particularly in the few years immediately following 1927. One further interesting observation is that the incidence of recorded cases seems to be somewhat cyclic in nature, reaching a peak every three or four years, until 1945, when the pattern changed abruptly because of increasing public recognition of the danger.

*Gonyaulax catanella*, the agent responsible for shellfish poisoning, is indigenous to the Pacific coast from the southwest part of Alaska and the Aleutian Islands to the Gulf of Mexico. (Cases of paralytic poisoning occurring on the Atlantic coast and in Europe are generally believed to be caused by a different, although similar, organism.) This protozoa is tetrahedral in appearance with the external surface composed of protective protein plates. One flagellum is curled in a groove about the center of the organism, while the other extends from one end and serves as a limited means of locomotion. It is greenish-brown in color, but in sufficient concentration has a reddish-brown appearance. It feeds, plant-like, by photosynthesis, and multiplies by the formation of chains of two, four, or even eight individuals—one reason why the total individual count may increase to as much as 40,000 a liter in a very short time.

*Mytelotoxin*, the poisonous chemical produced by *Gonyaulax*, is harmless to shellfish but deadly to animals and

man. A quantity of poison as infinitesimally small as one-millionth of an ounce, when injected into a mouse, will cause spasmodic convulsions and death within fifteen minutes. A few milligrams of *mytelotoxin* may be considered a fatal dosage to an adult human, a slightly smaller amount than might be found in the digestive organs of one large seriously affected mussel.

Five factors determine the amount of *mytelotoxin* in a shellfish.

- (1) The degree of concentration of individual organisms of *Gonyaulax* per liter of sea water.
- (2) The relative amount of *mytelotoxin* present in a given concentration of *Gonyaulax*.
- (3) The distance of the shellfish from the open sea.
- (4) Whether the bivalve feeds on detritus or almost exclusively on plankton.
- (5) The degree of physical retention of *mytelotoxin* by the bivalve.

Although the first factor is self-explanatory, the second is not. It has been determined that a given concentration of *Gonyaulax* may at different times produce varying degrees of toxicity in shellfish. There appears to be varying amounts of *mytelotoxin* present in *Gonyaulax* itself. For this reason it should be emphasized that it is not necessary for *Gonyaulax* to achieve a concentration sufficient to be visible as a "Red Tide" in order to produce an acutely poisonous condition in shellfish. The further the distance from the open coastline, the smaller the concentration of *Gonyaulax* becomes. This is one reason why it has never been necessary to quarantine the soft shell clams and native oysters which are usually found in secluded bays and inlets. The fourth factor is the feeding habits of the bivalve. A detritus feeder (a creature which feeds as a scavenger, ingesting decaying organic matter, bacteria, protozoa, nematodal worms and other microscopic organisms) will ingest a smaller amount of *Gonyaulax* than a bivalve which feeds upon plankton alone. The majority of bivalves, however, are detritus feeders.

The final and most important consideration is the physical retention of *mytelotoxin* in the shellfish. While clams may show a measurable amount of *mytelotoxin* during a period of heavy concentration of *Gonyaulax*, the amount present is never as great as is found in mussels within the same area. This is because the mussel stores the *mytelotoxin* within its liver and digestive tract and only after a period of several weeks does it begin to slowly excrete the poison as a waste product. The bivalve which has the worst reputation is the extremely common Cali-

fornia sea mussel, *Mytilus Californianus* Conrad 1837. However, since shellfish poisoning has been caused by other mussels, all species should be considered a source of potential danger.

*Mytelotoxin* is a colorless, odorless, tasteless substance. It is heat stable and water soluble, which means it cannot be destroyed by cooking. There is no way the poison can be detected in a clam or mussel, other than by animal test. The best method is to inject a solution made of the ground viscera of the suspected shellfish into a mouse and wait for terminal convulsions within twenty minutes. Lacking equipment for this, an emergency test can be made by feeding the viscera to a kitten and watching for signs of muscular incoordination.

There are several superstitions which have doubtless contributed to the fatality rate. Probably the most dangerous is the idea that mussels gathered on a very low tide will not be poisonous; the truth is that mussels picked below the tide line are, if anything, even more poisonous than those above. Another fallacious idea is that a silver spoon or a piece of garlic will turn black upon being cooked with poisonous shellfish. The garlic may do something for the flavor, but as a test for *mytelotoxin*, both garlic and silver are completely useless.

Symptoms of shellfish poisoning consist of tingling in the tongue, lips and fingertips, followed by numbness in those parts and general muscular incoordination. Greater and greater difficulty in breathing results in eventual respiratory failure. When these symptoms are observed in a person, it is essential that first-aid measures be applied immediately. It is of prime importance to evacuate as much of the poisonous material from the stomach as soon as possible. This can be accomplished by swallowing water to which baking soda has been added, then placing the finger down the throat until vomiting occurs. This should be repeated until the vomitus is clear and without particles of food. If baking soda is unavailable, plain drinking water should be used. Although some authorities recommend a cathartic, this should not be attempted as a field first-aid measure. It is extremely difficult to completely cleanse the stomach without using a stomach pump. A cathartic will drive some of the remaining material into the intestinal tract where it will be quickly absorbed into the bloodstream. Instead, the victim should be taken to a hospital with the greatest speed possible, where such further cleansing can be effectively done. Mouth-to-mouth artificial respiration will be necessary if breathing stops be-

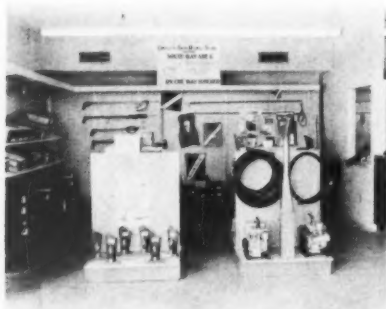
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# PROGRESSIVE IDEAS

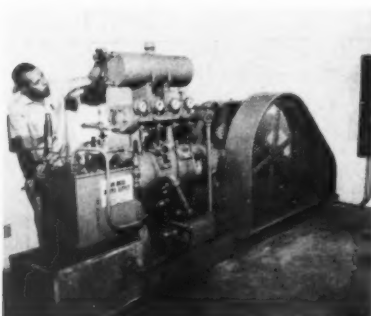


Completely outfitted manikin tells the story of the shop inside. Not shown is the "Stop and Dust" box of talc left in front of the store for divers on the way to dive.



At left is part of display area, a serve yourself section. Note store trophies in the picture promoting local diving meets.

Bill Hardy pets his new "baby", the Norwalk four stage water lubricated compressor. Cost of new unit was nine thousand five hundred dollars without storage tanks.



Indoor heated pool for class instruction has eight foot deep end and four foot shallow end. Pool has "stepped" decline rather than usual slope.



The two operator-partners shown behind front counter in rental section. The counter is cut low to permit fast filling of tanks



Photos  
by  
Meese

## SHOW THE WAY TO GROWTH AND PROFITS

**A**FTER five years down the street in the usual cramped store quarters of the small dive shop, this installation, by careful planning and a steady growth pattern, has made a dream come true. Now established in the new 64,000 sq. ft. specialty dive shop complete with "just about everything a diver could want", the two "Bills" (Johnston and Hardy) are following their theory to further success.

"Service and promotion", admits both, "have helped us more than any one single thing. We believe if a dive shop is to survive AND grow, the operation must continually strive to better serve the customer and the sport. We do this by continually introducing new divers to the sport and by maintaining high local interest by helping our Council and clubs promote diving meets." Not satisfied yet, the two partners are now planning a "Diver's Dream" charter boat operation. Besides the installation shown, the two own two smaller diving shop operations in outlying communities.

## ANOTHER DEALER AID FROM SKIN DIVER MAGAZINE

SKIN DIVER—January 1961

# INSTRUCTOR'S CORNER

By NEAL HESS

SEVERAL attempts have been made to define the physical ability required for an underwater instructor to be capable of instructing. The primary reason for physical competence on the instructor's part is to allow him to set the example to his students of the enjoyment that comes from the sport when a person is in good physical condition and second, to come to the aid of his students who may find themselves in trouble during either the pool work or the open water session of their training. In the first case, enjoyment of diving comes when one is not preoccupied with cold and fatigue and the difference of going in the water after the first dive with a second tank will definitely depend on physical ability. We will probably agree, given a difficult diving situation, the person with the greatest physical capacity is most likely to survive.

Obviously, however, physical ability is not the only factor for survival. A competent swimmer can get into just as much trouble a half mile from shore as a weak swimmer a few yards from shore. And in enclosed space such as a sunken ship or a cave, the difference in physical ability means much less than the difference in judgment. One friend with whom I did not completely agree but who had a good point went so far as to say that a non-swimmer who was expertly trained in underwater diving would accept the underwater world and would not have the tendency to head for the surface in a panic situation, whereas the person with the training for survival on top of the water would tend to rush there at the slightest provocation. He went on to explain that the best hard hat divers working in Pearl Harbor after the December 7th bombing were those who could not swim and were able to go inside the sunken ships, under mud, through hatchways and into rooms full of water without the thought of having to swim to the surface for survival if something went wrong. The point is that they, in not having the ability to swim, would think in terms of air supply through the hose and in working their way back through the passage ways to safety rather than thinking of heading for the surface. Of course they had an ample supply of air to remain in a difficult situation for many hours where the scuba diver has a limited air supply.

Let us consider the other side of the

argument. I know from personal experience the difference is very noticeable between those times when I have been in good physical condition and those times when I have not. One day when we were diving on a reef about a mile from shore our boat drifted away and we were forced to swim for the shore. Luckily we were able to catch the boat but nevertheless it was very comforting to know that I could make the mile swim and avoid the beach area where the surf was pounding due to my physical condition. On the other hand when diving in some breakers after a period of a year of non-diving, I found myself in near panic as the breakers attempted to lift me up and bring me down on the rocks. I tired quickly and felt fear.

I definitely feel an underwater sportsman must be a good swimmer in good physical condition but that this is in vain if not tied to good common sense and judgment. The latter cannot be replaced with beef.

Many people who advocate not testing the instructor for physical fitness argue that a person who once is in good physical condition need not remain in the same condition. This is true, testing will not insure that a person will remain in good physical condition. However, I as an instructor-trainer know that once a person has been tested he has felt the experience of freedom his conditioning gives him and that when he drops out of condition there will be mental forces acting on him to regain the lost ground. A person cannot escape this feeling in our attitude toward the athlete.

Physical testing must be practical. The YMCA has developed a set of physical tests which are good for the earth man but I feel do not reflect the maturity required of the man in the water. For example, I know many fine divers and instructors who are very capable but have one arm or one leg or perhaps are missing both an arm and a leg. There is no question as to their water skill but it is very difficult for them to do a push-up or chin-up. Thus in my own activity with the National Association of Underwater Instructors, I recommended that an individual be allowed to select from the following tests any four and be required to pass them as indicated. At least one must be a water test. Our experience in Houston brought out

that the tests were not excessive but were difficult enough to require a little practice. Why don't you try these and see how well you can do. Fifty-three points are required for passing.

## 1. Distance swim.

Swim one-half mile with out pushing off from the sides of the pool and using no aids. For each seventy-five feet you swim in excess of the half mile credit yourself with one point. Maximum allowable points is 20 or a swim at 1400 yards.

## 2. Survival Test.

With tank in one's arms and weights necessary to give neutral buoyancy, without mask, flippers and other aids, jump into a pool or open water at least 10 feet deep and go to the bottom. Put on the tank and swim without mask and other aids on the bottom for ten minutes. Come to the surface. Tread water or bob for fifteen minutes (no floating). Continue to tread or bob. For each five minutes of treading or bobbing after the first fifteen minutes credit yourself with one point. Maximum points 15 or treading with tank, regulator and weights for one and one-half hours.

## 3.\* Chinning the Bar (10 times = 16 points).

Starting Position: Full, extended hang from the bar with elbows straight; use reverse grip (palms of hands and thumbs toward face), hand straight upward from the shoulders to the bar. A bench or stool may be used to reach and grasp the bar, then it should be removed. The bar should be 8 or 9 feet above the floor, or high enough to permit a full, extended hang without touching feet.

Execution: At any desired rate the body is lifted by arm, back, and shoulder strength until the chin is even with or over the horizontal bar. It is then lowered to full extension of the arms. The act is repeated as many times as possible in continuous movement (1-2-3, etc.) Only fully completed "chins" are counted.

## 4.\* Floor Push Ups (23 times = 14 points).

Starting Position: The subject lies face downward with his hands on the floor beside his chest, fingers pointed forward. With the toes curled, the thighs and abdomen free and only the chin or chest lightly touching the floor, the subject is ready. A partner or examiner kneels beside the subject to check body position and to count.

Execution: The subject is to raise the stiffened and straightened body to a height where the elbows and arms are straightened completely, repeating as many times as possible in a rapid movement pushing up and down. A push-up is counted each time the subject pushes his rigid body, hips, and shoulders to a point where the elbows are completely straight.

## 5.\* Sitting Tucks (36 times = 14 points).

Starting Position: The subject sits on the floor with feet together and hands on hips. When he is ready, the feet are raised 6 to 8 inches off the floor and the knees kept as straight as possible.

Execution: When all is ready, the knees are brought up to the chest as far as possible into a sitting tuck position, feet off the ground and then returned to the original position. The rate is governed by the subject's will, but the subjects are told to do the exercise as fast as they can control it to obtain the best score. The feet should be kept clear of the floor throughout, but accidental scraping of the floor is not disqualifying if it lasts only instantaneously. A slight loss of balance may be corrected without disqualification. Some preliminary practice should be permitted.

## 6.\* Hops (731 times = 16 points).

Starting position: With hands on hips, the subject stands with feet together.

Execution: When the subject is ready, he does the following:

1. Hops up and down 200 times in place, so that his toes leave the floor at least 4 inches on each hop.

2. Immediately start 200 hops alternating feet and legs spread astride (straddle) and then together (each cycle—out and then together—is two hops).

3. Immediately start 200 hops using walk stand position (left foot forward, weight equally placed on both feet), then jump up and shift to right foot forward with left foot back. Each change is counted as one hop.

4. 50 hops on the right foot (use ball of the foot, not the heel).

5. 50 hops on the left foot (use ball of the foot, not the heel).

6. Follow with deep knee-bend hops for as long as the subject is able. It is recommended that the subject keep his body in an upright position, without bending forward. This will aid his balance. He should also touch the floor with the hands outside the ankles on each full squat jump. The instructor or a partner should set the pace and call out the count in a clear voice.

\*From YMCA Instructor certification program.

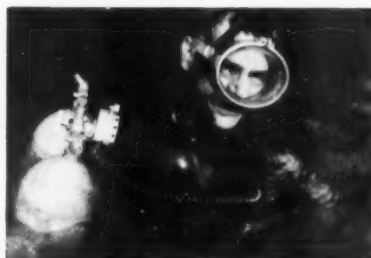
# NATIONAL ASSOCIATION OF UNDERWATER INSTRUCTORS

## Second Certification Course

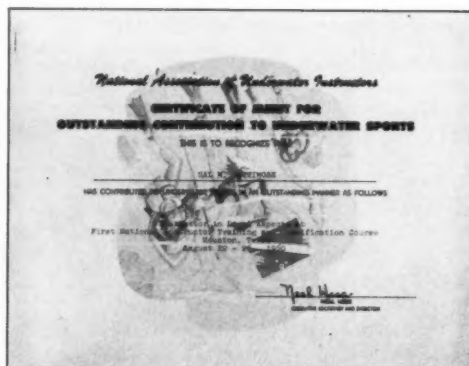
**RALPH POPLAR**  
NAUI Graduate No. 6



**G. H. HOWLAND**  
NAUI Director in charge



**RALPH POPLAR**  
NAUI Instructor Trainer



NAUI Diploma

**S**ponsored by Midwest Council of the Underwater Society of America and due to the impetus gained from the extremely successful and astoundingly informative N.A.U.I. certification session held in August in Houston, the Midwest area will hold the first regional N.A.U.I. Certification Course March 6th through 10th, 1961, at Park College, Kansas City, Missouri. Swimming pool, classrooms, dormitory facilities and meals will be provided at the College.

The plan of instruction and certification at this second N.A.U.I. Certification will closely parallel the outline published in "Skin Diver Magazine" prior to the Houston course by the N.A.U.I. Executive Secretary, Neal Hess. Again outstanding leaders in the field of diving will be present to teach.

1. Teaching Techniques
2. Physics of Diving
3. Diving Physiology
4. The Law and Diving
5. Diving Equipment
6. Marine Biology
7. Ichthyology
8. Underwater Recovery and Rescue
9. Life Saving
10. First Aid for Divers
11. Practical Pool Work

Tuition for one week instructor training (per individual) is \$75.00. Enrollment is limited to facilitate a greater individual guidance and attention. The earliest registrations will be given first consideration. A few vacancies will also be available for interested individuals to audit the course (sit in on the course) at \$40.00 per individual. Cost of room and meals will be about \$25.00.

The strong representation of commercial people who enrolled as students in N.A.U.I. at Houston shows an awareness by the people "in the business" for the need of nationally certified professional diving instructors. Students representing clubs or councils confirmed the need for the overall national correlation of diver training methods and information, so important to the healthful growth of our sport.

The outstanding men, Neal Hess and Al Tillman, made a monumental contribution toward the continued improvement of N.A.U.I. by their appointment of Garrald "Garry" Howland to the board of directors. This man not only lends prestige to N.A.U.I., as a teacher of U.S. Air Force instructors, but will provide added instruction techniques and diving information for N.A.U.I. instructors. His executive ability and leadership are well known. ➤

### SECOND NATIONAL ASSOCIATION OF UNDERWATER INSTRUCTORS MIDWEST AREA COURSE

Name..... Age..... M - F

Address.....

City.....

Strong Subject.....

Zone..... State.....

Weak Subject.....

Years as Instructor .....

Deposit (\$40.00 minimum).....

Send to and make checks payable to  
National Association of Underwater  
Instructors, c/o G. H. Howland  
164 Concord, Biloxi, Miss.



## FOURTH ANNUAL UNDERWATER FILM FESTIVAL

**T**WO NIGHTS of the best in underwater photography plus 4600 seats plus the beautiful Santa Monica Civic Auditorium equal this year's edition of the International Underwater Film Festival. Slated for January 20 and 21, the Festival will feature the best works of professionals, semi-professionals, and amateurs.

From a more or less humble beginning four years ago as a one night show presented to a select invitation-only audience at Los Angeles State College, the Film Festival has grown by leaps and bounds.

Today it is being presented in two installments—each night a different show—and plans are in the offing to expand it to five nights within the next two years.

Truly the Film Festival and the accompanying film competitions reflect this rapid growth of interest in the fascinating sea around us.

Often, people feel that the Film Festival "falls together" a few days before presentation time with little or no effort on the part of the Underwater Photographic Society.

How wrong! How wrong!

Actually, plans for the 1960-'61 version of the Film Festival began taking shape soon after last year's one night stand at the San Gabriel Auditorium. As soon as the evaluations were in and money counted (and bills paid) the plans for this Festival began to take shape.

First, by virtue of the number of people interested in showing fine underwater footage, it was determined impossible to have the Festival on one night. With the likes of Dr. Andreas Rechnitzer, E. R. Cross, and Luis Marden showing underwater film, a minimum of two nights would be needed, felt the Festival's guiding lights.

Besides, the increased interest in film competition would mean that greater works would be coming from the average fellow who shoots a roll or two around Catalina on Sundays. In other words, the amateur underwater photo bug would have a better chance of having his footage shown with the expanded two night Festival.

Then came the formation of various committees to handle everything from

film competition to ticket distribution to press relations.

Posters were printed, tickets were made, and the people working for the Festival became a team. Sometimes a fighting, scrappy team, but a team nonetheless. Then came the period of "will he or won't he arrive on time?" Telegrams were sent. Letters crossed en route. Pictures didn't turn up.

Today, it seems apparent that the Film Festival will be a near sell-out both nights. Interest in the competitions and Festival seem to have reached new heights. Reports are that the Santa Monica Civic box office is being swamped by calls, while the interest among clubs, manufacturers and dive shops means that group ticket sales may account for 80 percent of the attendance.

If you have not already made plans to attend the Film Festival, do so at once. Prices for the event are \$2.50, \$2.00, and \$1.75. Good tickets are still available for both Friday and Saturday nights — but you better hurry. ➤

Santa Monica Civic Auditorium, site of the Fourth International Underwater Film Festival, January 20 and 21, is on the corner of Pico Boulevard and Main Street in Santa Monica, California.

From San Diego, the auditorium is best reached by taking 101 Alternate through the beach cities to Santa Monica. From Santa Barbara and northern California cities, 101 Alternate also seems best.

Hotels and motels along Pacific Coast Highway, Main Street, and Olympic Boulevard in the Santa Monica area appear to offer the best accommodations for weekend visitors to the Film Festival.

Detailed information on the Festival may be had by writing the Underwater Film Festival, Inc., 1147 Montecito Drive., Los Angeles 31, California. ➤



LUIS MARDEN

**U**NDERWATER Photographer of the Year—the coveted title that has been awarded to the likes of Jacques Cousteau, Lamar Boren, and Dr. Hans Hass—this year will be presented to Luis Marden.

For his work on the sunken city of Port Royal, the fascinating study deep in the Mayan sacrificial well, and the thrilling photographic study of the ill-fated British warship "Bounty," the award will be made.

Al Tillman, on the selection committee for Underwater Photographer of the Year, noted that the Underwater Photographic Society solicited nominations from leading photographers all over the world. Marden's name appeared continuously.

In his notes on Marden, Tillman observed that "Marden created an indelible page in the progress of underwater photography's rewriting of history. Luis Marden had creatively demonstrated again and again that we have just begun the exploration of the world about us."

Just who is this man Marden?

Marden, a member of the Senior Editorial Staff of the National Geographic Magazine, has been called the world's foremost underwater photographer. But his life of adventure hasn't been all beneath the sea. Besides stalking marine life, the versatile writer-photographer has flown in supersonic jets, hacked his way through the Central American jungles, and visited some of the most remote islands inhabited by man.

Born in Chelsea, Mass., in 1913, he began his career as a free-lance photographer for the Boston Herald and as an announcer-writer for a Boston radio station. He joined the staff of National Geographic in 1934.

That same year, Marden, who was one of the first professional photographers to specialize in 35-millimeter color work, published one of the first books on the subject: "Color Photography With a Miniature Camera."

"I first became seriously interested in diving during the last war," Marden said. "I happened to be in the West Indies, and had my first good look at a

(Continued on Page 77)



E. R. Cross aboard his boat "Four Winds." Cross will show underwater construction work in Hawaii at the Film Festival.

# BRRRRRRRRR....

Members of the Mile High Skin Divers Club of Denver, Colorado, had a job salvaging their own equipment from under three inches of new fallen snow when they came out of Naylor Lake above Georgetown, Colorado. They had just completed an underwater mapping job in the lake which is over 10,000 feet above sea level.



Jim Smith, right, president of the Mile High club signals "all is well" after coming out of the ice cold lake into the first real blizzard of the season. Divers had been searching for a rift in the bottom after owners complained of losing fish.

## BUFFOONUS AQUARIUS

(Continued from Page 39)

ing our best to hurry because a boat load of skin divers, containing, in all probability, a great number of buffoons, had just arrived on the scene.

From where we were it was like sitting in the Cliff House and looking out over Seal Rock. There seemed to be *hundreds* of them. I felt we didn't stand a chance, still, we hurried. A few were splashing around in the water now. Some were jumping in with their equipment on. It was getting close. We jumped into the water and swam down as quickly as possible. *But the buffoons had landed.* They were hovering over the wreck like buzzards waiting for it to die.

We headed through the cloud of stirred up mud toward the bow. Some of the more adept divers were banging away at something, portholes I guess, under the watchful eye of the hovering and signaling buffoons. I helped Mary squeeze through the bow hatch and then eased in with my Rollei. Too bad! At least one buffoon had been there and stirred things up. Thankfully though, not the whole herd.

I took about four shots through the somewhat hazy water before I got the jolt. It was unmistakable, the prologue to a signal from a buffoon. I

turned. There they were . . . three of them, their signaling arms undulating in the dust they were kicking up. I gave another famous, or infamous, signal, grabbed my wife by the arm and fled. Photography was out of the question.

We started back up the deck of the Valiant to the stern. As I passed the spot where I had previously placed the towing bitts, I saw two fully clad buffoons in the operation of salvaging them. What an impressive array of signals. I learned then and there that salvaging buffoons know more signals than hovering and looking buffoons. At least they use more. I was going to protest but my bitts just weren't worth the signaling.

We reached the surface and took our gear off in time to see the salvage-buffoons' marker buoy bob to the top. This yellow inflatable bag was met by wild gasps of speculation from the buffoons on the boat.

"Gee, what could it be? Some treasure? A good thing? Wow!"

I knew.

The day was a bust and we began to stow the gear and make ready to clear out when all of a sudden the air was pierced with the loudest buffoon scream ever heard. Five in-suit-boat-basking-buffoons hit the water and made for the buffoon that was clinging to my anchor line. What I saw was hard for me to believe. The five buffoons were bearing the one buffoon

across the water much the same as the team carries the football hero. The buffoon of buffoons was brandishing the Danforth anchor I had pulled out of the sand and hooked to my anchor line.

This was too much.

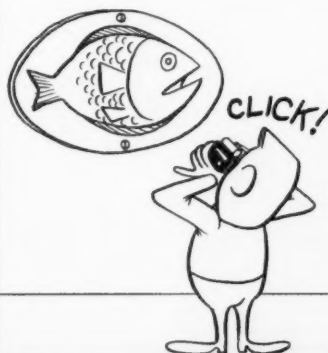
They were about midpoint between the two vessels and I started yelling. Not in complete madness like the situation called for but, since I am somewhat passive by nature, in loud, agitated voice. I yelled that I didn't mind too much when they salvaged the bitts that I muscled up from the bowels of the ship, but to salvage the Danforth right off my anchor line was going too far. They just looked at me with their buffoon eyes and kept swimming. No amount of coaching in ethics would have altered the course of those buffoons who looked upon me as some minor irritation that would go away if they ignored it. I was about to jump overboard and do some preaching when I felt the restraining hand of my wife.

"Remember dear," she said, "buffoons will be buffoons." I let it go at that.

Anyway I was getting a kick out of the fact that the deck-basking-buffoons wouldn't help the two bitt-salvage-buffoons pull up the 200 pound mooring bitts that they had secured with a  $\frac{1}{8}$  inch nylon cord. And any buffoon knows that's a hard job.

## McSPLASH

by Kohler





## MEDICINE UNDER PRESSURE

By Walter R. Kirker, M.D.

**R**ECENTLY, I had the privilege to lecture before "The Middle Atlantic Diving Conference" in Philadelphia, concerning the medical aspects of diving. I touched upon the essential anatomy and physiology concerning diving and I once again expressed my strong feeling concerning the emergency use of the inflatable life jacket.

It is my considered opinion that no person should enter the water for the purposes of scuba diving without first putting on an inflatable type life jacket. The U. S. Navy feels so strongly and is so convinced of the importance of this piece of equipment that their frogmen are not permitted to even enter a swimming pool without their life jacket on. We should all learn from the

Navy's experience and make this yoke type life jacket an indispensable item of our diving gear.

There are numerous advantages and practical uses of this gear. For one, you will always have a means of flotation with your head out of water in times of fatigue or muscle cramping. How many times have you been caught many yards from your boat extremely fatigued after working hard to spear that elusive grouper, and in need of just a few moments rest. This life jacket is able to give just this. In this way the jacket becomes valuable to even the casual skin diver.

But best of all the jacket can be used to effect the safest means of underwater escape from complicated underwater situations. I refer here to the now famous "blow and go" method as compared to the "free ascend" method advocated for so many years by the Navy. It was requested, at the meeting in Philadelphia, that I describe this method for the non-believers to read. In any underwater escape, we are concerned primarily about getting out of the water without over-distension of the lungs and air embolism. Using the life jacket this embolism can be almost eliminated since the lungs are placed at a position of near collapse and therefore the lungs are not in the distended position where rupture will occur. Think of the lung as a large balloon. The balloon will only rupture when it is distended, obviously. It is the same with our lungs.

The technique of the ascend is as follows:

1. Pull the string on the life jacket allowing the stored CO<sub>2</sub> to enter the bag portion of the jacket which gives the necessary buoyancy needed for the ascend.

2. Once you feel that the jacket is starting to inflate, exhale, at once, the greater content of your lungs and keep exhaling throughout the ascend. You will actually have air to exhale throughout the ascend since the gas in your lungs is expanding all of the time. (CAUTION: If practicing in less than 40 feet of water, be sure to forcefully exhaust *all* of the air in your lungs at the very moment you release the life jacket inflation mechanism.)

3. Ride to the surface looking up toward the surface of the water to make yourself aware of possible surface craft or objects.

4. You will arrive on the surface with your gear (scuba, camera, etc.) and held at rest by a jacket that even an unconscious man would be unlikely to drown in. What more could you ask for?

Let me caution you about one thing. Inflatable belts, fins, bags, etc., are not able to do the exacting job that the yoke-vest type of jacket is capable of doing. If you find that this piece of equipment is too expensive individually then have your diving club purchase a number of these jackets for use during club activities. Everyone should know how to make an emergency ascend. Are you ready? Tomorrow might be the day.

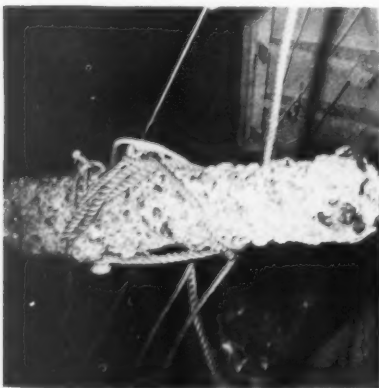
## VENEZUELIAN EXPERTS DIVE ON "SAN PEDRO ALCANTARA"

(Venezuelian Navy Official Photos)

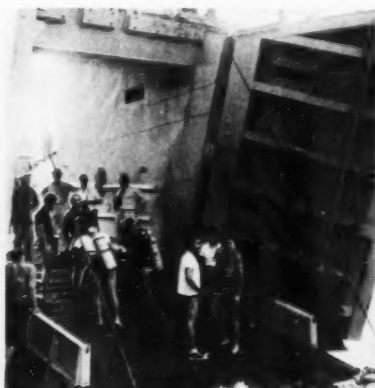
Working together, divers of the Sociedad Venezolana De Investigaciones Submarinas and the Venezuelan Navy recently began research dives on the wreck of the San Pedro Alcantara, a Spanish fighting ship. The ship was sent by King Fernando VII to quell a rebellion in Venezuela over 150 years ago. The Venezuelan Navy has offered its full support to the continuing exploration of the underwater world.



Navy Lt. Lizardo Marquez-Perez (in white shirt) and Alfredo Velez B. prepare to dive on the wreck.



First cannon to be raised took nearly eight hours after resting on the bottom for over 150 years.



A group of divers ready to begin search. Turbid and plankton-rich water allowed a visibility of only one yard.



Two cannon from the San Pedro Alcantara, which was sunk by an explosion off the Venezuelan island of Margarita.

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Central YMCA divers (Cleveland, Ohio) Jack Scanlon and Richard Goodreau demonstrate towing device at boat show. Interest of public in diving is apparent by the size of the crowd around pool. (Photos by Otto Schutte)

In a new way to demonstrate diving to the public conveniently, divers (left to right) Stan Kroll and Lad Lisy show outdoor use of pool. Bob McCartney explains from position on ladder.

## NOTES ON THE LIFE HISTORY OF THE LINGCOD

By WILLIAM L. HIGH  
Fishery Biologist

THE LINGCOD, *Ophiodon elongatus*, only member of the family Ophiodontidae and related to the greenlings and the sculpins, can readily be distinguished by its long body, its small smooth scales, its long dorsal fin with 24 to 27 spines followed by soft rays, the large mouth with projecting lower jaw, the long canine-like teeth and the fleshy flap over each eye. The head alone makes up about 20 percent of the total weight. The male is distinguished by the presence of a short broad conical papilla immediately behind the vent.

These fish range from California to Alaska with British Columbia as the center of abundance. In British Columbia the lingcod is distributed from the intertidal zone to over 80 fathoms and around Queen Charlotte Island large specimens have been taken on halibut gear as deep as 200 fathoms.

The habitat of the lingcod are those areas where there is a definite water movement and an abundance of food supply in the form of fishes.

The spawning season of the lingcod extends from about the middle of November to some time in March. Under normal conditions each lingcod, after reaching maturity, spawns every year. There seems to be a tendency for the very large females, over 40 inches to lay their eggs before the



smaller ones. The egg mass of a mature female constitutes a considerable portion of the total weight; for example, a female of 41 inches weighing 32 pounds contained eggs weighing 10 pounds 14 ounces and the number amounted to over 518,000.

The spawned eggs are nearly transparent. Under natural conditions the male is constantly fanning the eggs with his pectoral fins, keeping the surfaces clear of growths and allowing a continuous change of water to flow over them. He will repel any intruders such as starfish or dogfish which may come near, attacking them by biting or bunting with his head. The

period of incubation is believed to be about six weeks.

At the time of hatching the fish are slightly less than 1/2 inch in length. Little is known of the activities of the juvenile lingcod from the time of hatch until they are about 3 inches long in June.

The male lingcod does not attain the large proportions of the female. A large male is one of about 36 inches weighing 22 pounds with a near maximum length of 4-1/2 feet. A very large female is one of 52 inches weighing 54 pounds.

Reference: 1937 Biological Board of Canada Bulletin No. 34 by Wilby, G. V. December 1933 Canadian Department Fisheries Trade News.



# Junior . . .

# FIN FANS

by JEAN DOWD

(Would you like a diving Pen Pal? Send in your name, age and address and we'll print it in the Junior Fin Fans column. Write to: Junior Fin Fans Underwater Mailbox, c/o Skin Diver Magazine, Lynwood, California.)

A GROUP of nine juniors hurried into the locker rooms and began removing bulky leg braces and tossing aside orthopedic canes. Some, holding fins and masks, expertly propelled their wheel chairs to the edge of the pool at Cochran Park in Bellflower. All were excited and anxious to be first in the water since, for these children, skin diving is the result of many months of arduous, carefully planned swimming instruction; learning to dive is an adventurous and enviable goal for the members of the first skin diving club in Los Angeles for physically handicapped children.

Most of them attend the Glendale Home School and are busy pursuing outside interests as well. All of the boys in the diving club are members of the Boy Scout Home School Troop #16 and recently participated in an over-night campout. Individual interests compete for even more of their time. Steve Vollmer, who expertly "hot

rods" his wheel chair wherever he wants to go, is very vivacious in any undertaking and is studying to be a mechanical engineer. He likes model airplanes and boats and is very good at mechanical drawing. He has built his own model train set and a radio over which he can talk with a friend three miles away.

Ricky Lovell also builds models and is studying to be an engineer. Douglas Hall enjoys athletics. Since he has limited use of his hands, he's very appreciative of the special bike which was built for him. He also plays touch football. Music is another of Doug's hobbies and he has an enviable record collection.

Donna McKay is interested in dress designing while Rita Bonette likes art and music. Rita makes beautiful mosaic pictures and is learning to play an electric organ.

Gordon Overton, recovering from a bout with polio, is planning a career

**CONTEST WINNERS  
WILL APPEAR IN  
MARCH ISSUE**

as a lawyer. Gary Manowski likes building models while Roger Morris is interested in metal work. Roger has made attractive book ends and barbecue utensils. He is also very athletic minded and follows the records of all the teams each year.

George Ellison is interested in art. He has made many scrap books as a result of his intensive study of the beautiful art work found at Forest Lawn. George is truly an authority, having researched the history of stained glass, sculpture, the artists and their backgrounds.

Even with this busy schedule, these juniors consider their swimming an important avocation. Each is a well trained water devotee who has compensated for his handicap by months or years of hard work and more than a little ingenuity. One youngster, who lacks enough body surface to stay above water, wears a float and uses his own "paddlewheel" stroke to propel himself quickly through the water. This same youngster found working with scuba fascinating and more relaxing. He was no longer concerned with staying above water and found it easy to hold the tank in his arms.

Their lives are full of many victories. Imagine the excitement in the group when the boy who must swim in circles because of a crippled arm, stays with sport until one day he does reach out and make his first swimming stroke with that arm.

These children show no fear of the water. They know they are receiving fine instruction and are safe. When they are learning, there is an instructor for



Handicapped children from the Glendale Home School join the ranks of junior divers. Left to right, above, Rita Bonette, Steve Vollmer, Ricky Lovell. Sitting below, Douglas Hall, Donna McKay, Gary Manowski, Gordon Overton, Roger Morris, George Ellison.



Homer Fletcher gives pool instruction in safe use of scuba. Some handicapped children find it easier to use scuba than to attempt skin diving from the surface. Diving is definite aid to many children in muscular development and coordination.



each child; and swimming, for them, is just what the doctor ordered. This sport not only benefits weakened muscles and bones, but builds confidence by allowing them to compete on a more equal basis with others. It is difficult for the average person to appreciate what it means to the physically handicapped to experience mobility without bulky apparatus. This freedom of movement allows them to utilize and develop all muscles through pleasurable recreation. Handicapped swim classes are offered to those who have paralysis, circulatory difficulties, temporary orthopedic disabilities, cerebral palsy or are amputees.

This group from the Home School has a terrific team of instructors. Roy and Virginia Osman are dedicated and skillful teachers. Roy, who works in the Jet Propulsion Lab at Cal Tech, is himself an amputee. He began his work with the handicapped children after extensive aquatic work with the Red Cross. He now supervises the instruction of other adult leaders in this field. Roy is also Scout Master of the Handicapped Boy Scout Troop in Glendale. Virginia directs the complete swimming program at the Valley Association for the Handicapped in North Hollywood.

They are assisted by Frances Chantland, a YWCA and Junior Lifesaving Instructor. Frances, very popular with the children, works for the Walt Disney Studios.

After the Osmans had given the children a good background in swimming, and each had earned a Red Cross intermediate swim card, Homer Fletcher began skin diving instruction. Homer is a Los Angeles County Certified Instructor with an extensive background of aquatic accomplishments. It was soon apparent that wearing fins gave the children added stability in the water, compensating for immobile limbs. Their ability to skin dive varies, but their enjoyment of this sport is obvious. Some can dive and retrieve weights at different levels. Others enjoy exploring the bottom of the pool, at shallow depths, using scuba. All, however, are anxious to improve their diving skills and look forward to the day they have their first glimpse of the colorful world beneath the sea. Their excellent training and fine attitude will most certainly accomplish this for them in the future.

In the meantime, they look forward to the frequent small victories in each phase of diving. They are especially hopeful of one day having a "frogman" card which shows they too belong to the world of underwater enthusiasts.

Team of instructors give handicapped children fine background in aquatic skills. Left to right, Virginia and Roy Osman, Homer Fletcher, Frances Chantland. Pool facilities at Cochran Park were donated by managers, Ed and Ray Petterson.



## JUNIOR UNDERWATER MAILBOX

... I have been scuba diving for one year now, in Lake Michigan, in the vicinity of Chicago. This summer I am planning on doing some spear fishing in Florida. I wish more girls would start skin diving. I am trying to start a club at my high school for boys and girls who have not had proper instruction because they are not old enough. I attend Riverside Brookfield High School, and I plan on calling the club the R-B Bullfrog.

Dennis Svehla, 14  
2208 Burr Oak Avenue  
North Riverside, Ill.

These Juniors would like diving Pen Pals. Why not add your name to the list? Send your name, age and address to: Junior Fin Fans Underwater Mailbox, Skin Diver Magazine, Lynwood, Calif.

Joyce Fischer, 14  
7 Rutledge Street  
W. Roxbury 32, Mass.

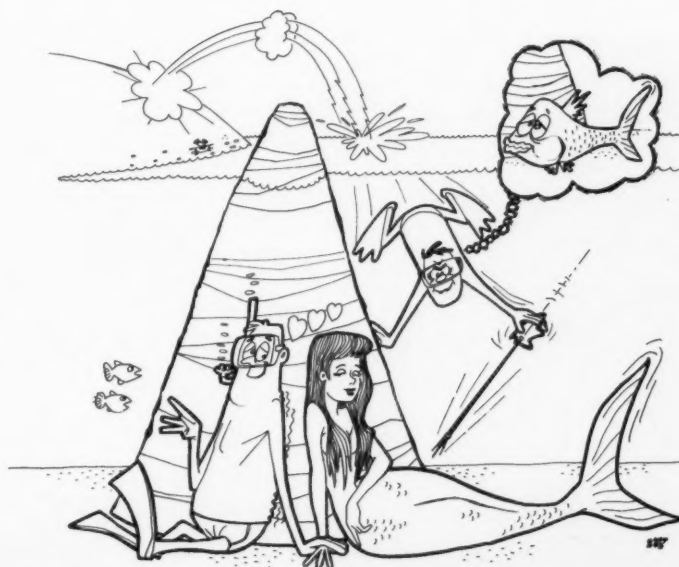
Barry Steiner, 14  
185 Gallatin Street  
Providence 7, R.I.

Klaus Siemieniec, 13  
301 Hinsdale Street  
Brooklyn 7, New York  
Robert Simon, 13  
10700 S. Drake  
Chicago 55, Ill.  
Halfdan Kierulf, 16  
Drammensveien 61E  
Oslo, Norway  
Randy Roop, 10  
9820 State Street  
South Gate, Calif.  
Basil Cuthbert, 15  
41 Beach Road  
Castor Bay  
Auckland N. 2.  
New Zealand  
Burton Wassell, 15  
R.R. #1 Wellington  
Nanaimo, Brit. Col.  
Canada  
Roger Gilbert, 15  
19-11 Radburn Road  
Fair Lawn, N.J.  
Gerald Guiff, 13  
R. R. #2  
Churubasco, Indiana

Michele Nicholes, 11  
Route #1  
Madras, Oregon

John Dobyns  
14634 Fonseca Drive  
La Mirada, Calif.  
Chad Alber, 12  
Intl. Economic Serv.  
14, 1-chome, Magata-  
cho Chiyoda-ku  
Tokyo, Japan  
George Cox, 13  
13503 Pierce Street  
Pacoima, Calif.  
Robert Oftedal, 15  
3585 Woodward Ave.  
Seaford, N.Y.  
Wm. & Gary Handren  
209 Willow Ave.  
Hoboken, N.J.  
Bob Knowles, 13  
287 Brookfield Ave.  
Youngstown 12, Ohio  
Brett Tomlinson, 16  
15752 Leadwell St.  
Van Nuys, Calif.  
Blair W. Dalmer, 14  
1379 Maple Street  
Niagara Falls,  
Ont. Canada.

The Sea Fern Stationery, shown in the December issue was made by Helen Vaughn of Eugene, Ore.



## NEWS CURRENT

(Continued from Page 40)

**ISLES OF SHOALS, NEW HAMPSHIRE**—Divers representing three New England states spent two days in October searching the clear waters off the Isles of Shoals for the 1812 Spanish ship "Sagunta" which wrecked during a winter storm. Gil Arrington, Frank Cahill and George Berry of Massachusetts, Ralph Pinto, Mike Beltrami and Ellis Welch of Rhode Island and Conrad Rivest and Bob Cahill of Connecticut were aboard the "Challenge" out of Marblehead, Mass. Fog hindered the five-hour boat trip to the Shoals and although the "Challenge" struck a reef on the way out, a good four hours were spent underwater at a depth of 100-110 feet with 30 feet visibility (something hard to find in New England waters). Frank Scalli, Paul Connolly and the four O'Neil brothers of the Boston Sea Rovers attempted to make the trip to the Shoals to meet the "Challenge" but were forced to return to Portsmouth because of the fog. The "Sagunta" wasn't found, but another trip is planned.

**WHITSTABLE, ENGLAND**—A wreck discovered near this Kent seaport is believed to be that of a yacht built for Charles II in 1674.

**WISCONSIN**—University of Wisconsin scientists say the water from which fish are taken apparently influences the flavor of the fish.

**NANAIMO, BRITISH COLUMBIA, CANADA**—Remains of an old British sailing ship were found by skin diver Lloyd Wade and four companions off Thetis Island. The ship is believed to be the *Tanther* wrecked 92 years ago with 1,100 tons of coal aboard.

**PHILADELPHIA, PENNSYLVANIA**—Members of the Delco Diving Club directed the recovery of a twin engine Beechcraft airplane that crashed in the Delaware River while attempting to land at Philadelphia International Airport. Assisting in the recovery were personnel from the Deputy Harbor Master's office and U.S. Coast Guardsmen from the Gloucester, New Jersey Coast Guard Base.

**VENICE, ITALY**—Three thousand bottles of wine sank into the Venice lagoon when a barge overturned. Fire brigade divers have been asked to salvage the cargo which is lying in thirty-three feet of water.

**NAIROBI, KENYA, SOUTH AFRICA**—Every ship using Mombasa Harbor since World War II has sailed over hundreds of tons of high explosives contained in shells, mines and depth charges dumped in the harbor entrance. Divers made the discovery recently when they were sent down to blast coral rock to widen the harbor entrance. When the divers set off a small explosive charge to remove a rock there was an enormous explosion on the sea floor. The British Royal Navy was to send a team of divers to Mombasa to disarm the explosives.

**TAIPEI, TAIWAN**—Three Shanghai-born youths made a daring and successful escape from the China mainland by swimming for more than thirteen hours to reach the Nationalist-defended Quemoy Island group. Chen Wang-li, spokesman for the trio, said they wanted to choose freedom and secretly made an oxygen tank and a pneumatic bag for each. After dark they jumped into the sea from Kulangsu and began swimming toward Quemoy.

**ST. PETERSBURG, FLORIDA**—A diving tourist, James Thompson, discovered a German submarine off Longboat Key lying in 50 feet of water some eight miles southwest of the Sunshine Skyway Bridge.

**ENGLAND**—Two small British boys were watching a woman prepare to swim the English Channel. One asked why she covered herself with that heavy grease. Quipped the other, "To keep the skin divers from catching her."

**NEW YORK, NEW YORK**—The Wagner-Brose Marine Expedition Co. has temporarily halted further salvage work on the historical shipwreck "Defense," a privateer used by George Washington during the Revolutionary War in the Long Island Sound area. The onset of winter weather caused the directors of the organization, Ray Wagner and Howard Brose, to postpone operations until next spring. At that time a fully equipped expedition will attempt to retrieve a quarter of a million dollars in gold coin which was known to have gone down with the ship.

**SACRAMENTO, CALIFORNIA**—Divers of the American River Skin Divers Club challenged by the recovery of an axe possibly abandoned by members of the ill-fated Donner Party in 1846 by Don Jewell, continued archaeological aquatic searches amid early October snow furries and collected numerous specimens of crawfish for examination at American River Junior College. The frigid lake possesses remarkable preservative properties of archaeological significance according to the divers.

**NORFOLK, VIRGINIA**—Two teen-age boys built a submarine from a 275 gallon oil drum and operated it successfully in a farm pond. The Navy showed its interest by giving them a cruise from the naval base at Norfolk to Annapolis on the submarine U.S.S. *Cobbler*.

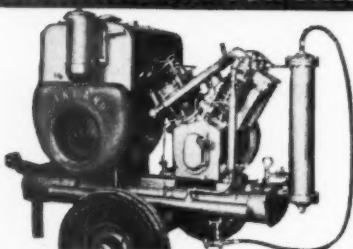
**EARLE, NEW JERSEY**—An ominous-appearing steel sphere weighing about sixty pounds caused alarm when it washed up at Annandale on Staten Island's south shore. Demolition experts eased minds when they reported it was just an old harbor light buoy.

**QUONSET POINT, RHODE ISLAND**—Two Navy aviators were rescued from the sea by skin divers. The two pilots plunged into the water off Quonset Naval Base when their jet trainer had a flameout. The men were ejected from the jet and were suffering from immersion and shock when the two divers, Domenic Armenti and Wayne Lail raced to the scene and picked them up.

**VICKSBURG, MISSISSIPPI**—The pilot house and cannon from the federal gunboat "Cairo," first warship in history to be sunk by a torpedo, have been recovered from the muddy Yazoo River and are now on display. Jackson skin divers Ken Parks and James Hart looped cables over the pilot house and it was pulled from its watery grave by a crane. Still resting on the river bottom is the 512 ton warship, but "Operation Cairo" hopes to salvage the entire Yankee vessel by December 12, 1962, the centenary of the sinking of the ironclad ram by two Confederate electrical torpedoes.

**WASHINGTON, D.C.**—An underwater copter enables the Navy's new remote-controlled vehicle to hurdle obstacles while making deep sea explorations. The "aquacopter," designed specifically for the Navy's RUM (Remote Underwater Manipulator), will propel the vehicle in any direction at depths of 100 to 20,000 feet and will handle an immersed weight up to eight thousand pounds and stay submerged in salt water for months without damage to its materials. Revolving rotors raise and lower the underwater copter and allow it to hover like its landlocked sister the helicopter.

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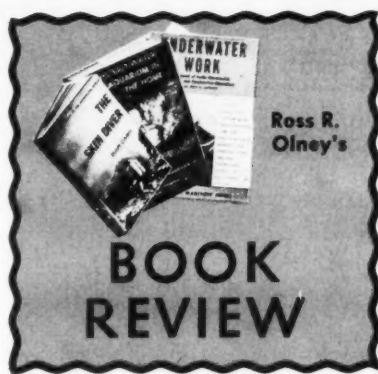
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## TREASURE DIVER'S GUIDE

By  
**JOHN S. POTTER, JR.**

**T**REASURE!! An electric word, stirring the blood in a man's heart, conjuring up visions of pirates, sunken ships and fabulous riches. Jewels, silks and satins, gold and silver ingots . . . all ill-gained, quickly lost and now waiting quietly underwater for some lucky diver to re-discover. And re-discovering can be almost easy with "The Treasure Diver's Guide" in one hand and scuba gear in the other.

Unsurpassed in its comprehensiveness and authenticity, "The Treasure Diver's Guide" contains the latest information on sunken treasure throughout the world . . . where it may be found, what it may be worth, and how to go about recovering it.

Written by California born John S. Potter Jr., the 480 page book is generously illustrated with photographs, diagrams and historic prints and has among its distinctive features 22 specially prepared maps which pin-point the locations of wrecks. The text includes descriptions and histories of hundreds of sunken ships, from the early galleons to World War II casualties to the ill-fated "Andrea Doria."

The "Treasure Diver's Guide" also evaluates the possible treasure in each case and the feasibility of salvage operations. It relates the stories of the many treasure hunting expeditions which have in some instances had fabulous success and in others, tragic consequences, and it is up to date on current activities in the field.

This is a sound, scholarly, exciting book which will appeal to armchair adventurers, historians and archae-

ologists, as well as to all who dive, whether for fun or profit.

The book is conveniently divided into sections of the world for easier location of a particular wreck. Here's an example from the South America-West Coast section.

### THE BUEN JESUS GOLD

"The 60 ton caravel Buen Jesus was sailing up the Chile coast toward Valparaiso on May 15, 1600, when her owner Francisco de Ibarra spotted a group of ships closing in. Soon he recognized them. They were Dutch frigates, commanded by the notorious Oliver van Noort who had been lately raiding the coast. Aboard the Buen Jesus was a cargo that would send the Hollanders away with happy grins, but de Ibarra was determined that they would capture none of it.

"There was a hurried conference. As the enemy closed from the seaward the water under the Buen Jesus' starboard side began to boil with the splashes of jettisoned bags and barrels. When the Dutch flagship Hope drew alongside, her boarding crew found nothing aboard but a general cargo of skins and wheat. There had been no need to swear the Spanish crew to secrecy; each man knew what would happen to him if van Noort learned of what they had just done. The Buen Jesus was partly stripped, and later burned after all the crew except the pilot and one slave were released. Then van Noort sailed on.

"It was weeks later, from a captured port official, that he learned about the Buen Jesus' jettisoned cargo. Under torture the pilot and slave confessed the truth. During the fifteen minutes before their ship was taken 10,300 pounds of pure gold—five hundred ingots and 100 pounds of coin—had been dropped into the sea!

"In the depths of the ocean, somewhere southwest of Valparaiso, the \$5,000,000 in ingots and coins trace a golden path across the rocks and sand, lost forever."

Or perhaps not . . . At any rate, this will give you an example of the thorough research that went into "The Treasure Diver's Guide".

Besides such complete documentation on hundreds of wrecks, the book delves deeply into such things as wreck identification, with sub-heads of hulls and construction, the ballast, sheathing on the bottom, anchors, chains and cables, money and ingots, weapons and defenses and a complete listing of the distinguishing features of the earlier day ships. It has a complete chapter on Research, Search and Salvage and another on "Ghost Galleons" and Treasures Already Salvaged.

"The Treasure Diver's Guide" has already been acclaimed as "the" book on treasure facts and treasure hunting by experts all over the world, many of whom actually contributed their own closely guarded secrets for publication.

Mr. Potter, the author, has had an unusual career which has taken him to almost every corner of the globe. Born in California and raised in Shanghai, he was educated at St. Georges School and at Harvard. He has been an enthusiastic diver ever since his first experience underwater

while on a vacation in Majorca. Although he still dives himself, he is primarily engaged in the financing and managing of various salvage operations as a result of his research on "The Treasure Diver's Guide".

Here's another random wreck selection from Mr. Potter's book.

### CAPITANA

"The wreck of this great galleon is everything a treasure hunter could desire. It contains tremendous and authenticated quantities of gold and silver; worth between \$2,000,000 and \$5,000,000. Its approximate location and conditions of loss are known. It is not too deep to locate and salvage. It has never been worked on.

"The Capitana was the registry ship of Francisco de Sota's armada which was carrying the 1654 accumulation of South America treasure northward. She had taken on barrels and cases of registry gold and silver at Concepcion, Valparaiso, Arica, Callao, and Guayaquil, and was on the last lap of her voyage to deliver this immense treasure to Panama, when in the darkness of night her hull broke open on the sharp teeth of the Chanduy Reef, off Punta Santa Elena, Ecuador. The huge ship filled and sank within minutes with nearly everybody aboard killed. The wreck settled near the base of the reef. Over succeeding years wave motions and animals eroded its planks and timbers, while coral deposits formed and grew.

"Today the multi-million dollar Capitana no longer exists in the recognizable form of a ship. She may even have become part of Chanduy Reef. The area within which she should lie is not too large to sweep with a magnetometer. The finder would have to contend with coral or sand before he could break through to her treasure . . . but the prize should be worth it, in spades!"

Published by Doubleday, "The Treasure Diver's Guide" is available through the Underwater Bookshelf (#57) in "Skin Diver Magazine."

## BOATING DIVERS

Send us suggestions to improve boats for diving . . . racks for tanks, speargun storage, etc. Each idea or suggestion published in *SDM* will net a two-year subscription.

## BOATING SUGGESTION WINNER

**JOHN RANDER**  
5330 Corteen Pl.  
North Hollywood, Calif.

Mr. Rander's suggestion . . . A diving platform to ease entry into and exit from the water while wearing equipment can be constructed of mesh grating. Cut to the width of the stern and framed with wood, the platform should be hinged to the transom at the water line and suspended by cable so that it can be drawn up snug against the stern when not in use. The grating will allow a rise and fall of water.



# Underwater Bookshelf

## A Manual for Free Divers Using Compressed Air

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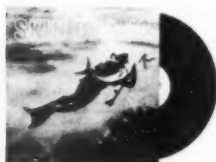
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## A Guide To Underwater Photography

by Dimitri Rebikoff and Paul Cherney

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by John Tassos

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## Shallow Water Diving and Spearfishing

by Hilbert Schenck and Henry Kendall

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by Keith R. Fuller

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### The Skin Diver

by Elgin Ciampi



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tales of adventure.

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To order books from this department please give the full name of the book desired and the book number. Be positive to print or type your full name and address on your letter. Send full amount of money for all of your purchases by check or money order payable to "Skin Diver" to:

Underwater Book Shelf Dept.  
SKIN DIVER Magazine  
Lynwood, California

## PACIFIC SHELLFISH POISONING

(Continued from Page 63)

fore the hospital is reached.

It must be remembered that there is no known antidote or antitoxin for shellfish poisoning, so it is extremely important that the procedures be followed exactly as outlined above. It is also important to bring a sample of the suspected shellfish along to the hospital so that a toxicity test may be taken.

There are three other illnesses which may be caused by eating shellfish, of which the diver should be aware. These are separate and distinct from *mytilotoxin* poisoning. The first is caused by post-mortem decomposition of the sea food. As previously stated, most shellfish are detritus feeders; therefore, the count of micro-organisms in them is very high. Upon the death of the bivalve, the micro-organisms multiply at prodigious rate, particularly if the internal temperature is somewhat higher than normal (as would be the case if a dead shellfish is allowed to stand out of the water for any length of time.) Eating this shellfish raw or after cooking it in the usual manner may cause gastric disturbance with accompanying diarrhea.

The other two illnesses are bacteriological infection and typhoid. Both stem from eating clams and mussels procured in areas of polluted waters. Any mass-scale dumping of sewage into the sea represents a source of such contamination. (For this reason such areas as Palm Beach, San Francisco Bay, and about four miles of beach in Monterey Bay in the vicinity of the Watsonville outfall sewer are quarantined.) The gastric upheaval caused by eating shellfish with bacteriological contamination may be serious, but it is rarely fatal. Typhoid infection is far more dangerous. One of the biggest oyster-borne epidemics in the United States occurred in 1925, when 1,500 cases and 150 deaths were caused by oysters taken from one source where the shellfish were kept in polluted waters. An even more disastrous epidemic attributed to oysters as a vector occurred in France at the beginning of the 19th Century, when 100,000 cases were reported with around 25,000 deaths.<sup>3</sup>

There are a number of rules for the diver to bear in mind to obviate the possibility of shellfish poisoning or illness.

- (1) From May 1 to October 31, stay away from mussels entirely.
- (2) During the summer months discard the dark part of clams.
- (3) During these months do not eat the viscera of any sea creature

(Continued on Page 81)

## FILM FESTIVAL

(Continued from Page 67)

coral reef. Like everyone else who has had this experience, I was enchanted."

Marden discovered the remains of Captain Bligh's "Bounty" off Pitcairn Island on January 23, 1957—167 years from the day that her mutinous crew burned the warship. The discovery climaxed a six-week search for its traces in the turbulent waters of Bounty Bay.

The Geographic's veteran staffer often sails with Captain Jacques-Yves Cousteau aboard the famed research ship "Calypso" which has become a living legend among undersea explorers. He helped photograph the film, "The Silent World," which received an Academy Award in 1957 as the best documentary motion picture of the year.

Marden has taken part in two recent archaeological expeditions of prime importance. One is investigating Dzibilchaltun, a ruined Maya city in Mexico. The other explored the sunken traces of Port Royal, the Jamaican pirate city that was tumbled into the sea by an earthquake in 1692.

Today, Marden lives in Arlington, Va., in a home designed by the late Frank Lloyd Wright with his mathematician wife, Ethel.

The award of Underwater Photographer of the Year will be made at the Fourth International Underwater Film Festival at the Santa Monica Civic Auditorium January 20 and 21. At that time Marden will show his famed film footage of the Bounty discovery. More than 4000 people are expected to attend this Film Festival and award ceremony.

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## THE GREAT EVEREST TRENCH

(Continued from Page 45)

turned toward me. He stood erect and, spitting out broken oyster shells, skimmed over me in long easy kicks into a cave hardly visible behind dense growth then up in the air pocket of another cave. I tried to collect my thoughts. Now I knew what had so excited the natives at the beginning of the season.

I had seen the legendary 'Abominable Seaman' whom the natives called "Veti." An experience few divers would ever have.

Who would believe me if ever I returned to civilization? Then it came to me. Would the "Orca" record this creature? But alas, on three successive dives descending as carefully as possible I was unable to keep water out of the faithful Orca at depths of more than a few hundred feet. The season ended and I didn't see the "Veti" again, though when I learned the language better, the natives told me that some years they were quite numerous and that whole families had been seen. They are apparently more abundant in the Everest Trench than anywhere else in the world. Although unconfirmed reports of "Veti" tracks in the Marianas Trench are received from time to time.

Now I had time to think of the future and realize that I didn't know what the natives did with their pearls. Tondeleyo told me that until the last four seasons the schooner "Cheerokee" had stopped annually to trade and that their's was the only ship to know of the island. The name "Cheerokee" solved the cause of broken trade relations with Everest Island for I knew that it had gone down with all hands in the great blow of 1950. The only thing to do now was set about building a boat and

getting the pearl harvest to market. Since it is contrary to custom for a Serfi to leave Everest Island we had to build a boat that I could manage alone, but by spring with the gentle Westerlies blowing I was ready to sail. This meant saying goodbye to my many friends, to Tondeleyo Mc-Tavish to tiny Tondeleyo Jones, and forever I thought, to Everest Island. But such is not to be the case. Though my leaving was uneventful, if difficult, and the four-year pearl crop brought a fortune, I find that I must return. After the pearls were sold I filled out the lists of things the natives had ordered: calico cloth, beads, underarm deodorant, Fizeren, etc., and shipped the whole 80 tons airfreight to Everest Island, for these people were in dire need. I found that my problems had just started. Every major airline and two non-scheds returned the lot "Address Unknown." Now I must deliver the goods personally. Little Tondeleyo would be five years old, her mother now over twenty. Quite old by Serfi standards.

All who would like to go along are welcome if they can qualify. Divers from the Southwest may qualify if they can prove that they have participated in two "Star Mops." North West divers are eligible who have been photographed with an octopus over ten feet. Midwest divers, unless they are familiar with salt water, should have at least two merit badges, one for diving through the ice, and one for finding a sunken auto will do nicely. South Eastern divers who have not grappled with a barracuda over five feet long may submit other qualifications. North Eastern divers need only admit the superiority of the Spiny Lobster.

Many who doubted this story had their doubts shaken when invited aboard the 36' "Everest Isle" which brought out our treasure. It was later lost on George Island of the Adamsky Group, but that is another story. ☛

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### CHICAGO SCUBA MANUAL

Aquanauts Scuba Committee of the Aquanauts Skin Diving Club, High Ridge YMCA, 2424 W. Tuohy Ave., Chicago, Ill., have just published a scuba divers handbook and instruction manual. The 103 page, illustrated manual can be obtained from the group at 50c. ➤

## SDM OPINION

(Continued from Page 14)

What then . . . ? The press appears to be on the side of the divers, as is "Skin Diver Magazine", which has always stood against anything keeping the divers from the water. It would appear, according to cool headed Chicago divers, that the present "no-diving" rules are forcing inexperienced divers out away from shore into deep water . . . and the trouble magnifies even more.

Perhaps the meeting scheduled between the CPDA and the major diving groups in Chicago, set for sometime in the "near future" (according to the same CPDA official), will iron out some of the difficulties and pave the way for the opening of at least a part of the shoreline. ➤



"Remind me sometime to show you how to clear a mask."

## SKIN DIVER MAGAZINE PREVIEWS THE 1961 OUT BOARD MOTORS

(Continued from Page 55)

eration, better fuel flow and increased fuel economy. The Flying Scott, largest motor in the Scott line, has gone from 60- to 75.2-hp with absolutely no increase in weight. The built-in generator is standard equipment. It has an output of 12-amps, providing power to operate most electrical boat accessories. Other features include the Bail-a-matic, sound deadening hood and engine mounts with a low pressurized fuel system. Fixed-jet carburetion on the Sport Scott is featured for the first time. The Fleet Scott is a new motor rated at 14.1-hp at 5000-rpm. It is an all-around diving motor with enough power to push light boats filled with heavy tanks and the usual diver's paraphernalia. The Scotty, veteran of the Scott line, still continues to be a mainstay among the small motors. It hits a 3.6-hp rating at 4000-rpm.

**WEST BEND:** The West Bend Shark line offers an unqualified full year warranty on all motors from 2- to 80-hp. The Tiger Shark "800" is the feature of the line, with 84.36-cu. inches displacement, 4-cylinders with 3-1/8th in. bore and 2-3/4th in. stroke, large enough for any task from pushing a large cruiser to towing a water sled. It has automatic conveniences such as forward, neutral and reverse, full gear-shift, single lever controls, and the "Electric-Shark" 12-volt system of ignition. A Constant Current "CC" alternator-generator charges the battery as soon as the engine starts turning over. The engine also has Hydro-Dynamic shock absorbers, thermostatic cooling, anti-friction bearings, forged stern brackets and complete silencing system. The accessories include 6- and 12-gal. fuel tanks, and such selective items as speedometer, tachometer, heat indicator, charge indicator and an all-purpose outlet furnished with a cigarette lighter which can also be used to power a map light, trouble light, et cetera. The West Bend line offers three 40-hp models, a manual rewind starter for economy, an electric starter model and a deluxe model with electric starting and 25-amp super alternator-generator. The Silver Shark line also includes the 25-hp, 18-hp and 12-hp models. Again for 1961, West Bend offers the 7-1/2-hp Special and the air-cooled 2-hp Shrimp.

**AMERICAN MARC:** The American Marc 10 is a one-cylinder two-piston opposed air or water cooled champion diesel outboard. This compact, lightweight diesel uses no magneto, no spark plugs, no valves, no valve springs, rocker arms, cam shafts or push rods. The American Marc 10 will be available in 7-1/2-, 15- and 22-hp models according to American Marc Inc., 1601 Florence Avenue, Inglewood, California.

"Skin Diver Magazine" has presented this information to you in the hope that it will further enhance your diving pleasure. The best thing we can recommend is to try the motors and pick the one best suited to your diving needs. We are sure that the outboard boat will offer new horizons and new areas to every diver who wants to increase his diving pleasure. ➤

## DIVING NEWS

(Continued from Page 16)

world, as it is already the first exclusive national diving newspaper.

But how much will it cost you? Here's more good news. Diving News will be sent free to all paid subscribers of "Skin Diver Magazine" and to all members of the Underwater Society of America. In this day of rising costs, increased subscription rates, and rising prices, we have found that by serving the diving world to the best of our ability, we can't go wrong. Diving News will also be available at most of the speciality diving stores at a minimum cost.

Let us know what you think of it. ➤



"ARE YOU SURE WE'VE JUST SET A NEW, WORLD'S DEEP DIVING RECORD?"

## PACIFIC SHELLFISH POISONING

(Continued from Page 77)

which might be a plankton feeder.

- (4) Do not gather clams, mussels, or any other sea food around those areas which are declared quarantined by the Department of Public Health or the Department of Fish and Game.
- (5) Do not eat shellfish whose shells have opened, which are obviously dead, or which, upon cooking, gave off a bad odor.
- (6) If there is a question in your mind, discard the food. DO NOT EAT IT.

In the 16 years since 1944, there have been only twelve cases of shellfish poisoning with two deaths reported; a rather remarkable record considering the several hundred known cases in the previous 17 years. The credit for such an achievement can be given to two agencies, the California Department of Fish and Game and Department of Public Health. These two agencies, working in extremely close harmony, have constantly taken samples, determined what areas and types of shellfish should be quarantined, and placed quarantine signs along the affected areas. They deserve the complete and absolute credit for the virtual abolition of shellfish poisoning along the Pacific coast.

(1) Summer, Hermann, and Clark, Francis N.: *Effect of Red Water on Marine Life in Santa Monica Bay, California*; reprint from *California Fish and Game Vol. 32, Number 2*.

(2) Table I, *California State Department of Public Health Cases and Deaths from Shellfish Poisoning in California, 1927-1957; Epidemiological Notes, Number 5*.

(3) Reinke, E. A.: *California Health, Vol. 17, No. 16*.



### Swimaster Names Forest Dawn New Sales Manager

Swimaster, an affiliate of Pacific Moulded Products Co. and one of the nation's leading manufacturers of skin diving equipment has a new Sales Manager, it was announced by Ken Simpson, President of the Company. In charge of sales is Forest Dawn, a pioneer in the underwater sport.

Forest will bring to Swimaster a background of twenty-three years of experience in the sport as an instructor and a marketing specialist. During World War II, Forest taught water techniques in the Navy while the UD Teams were being formed. Later, following his graduation from the University of Southern California, he conducted diving and merchandising clinics for dealers, distributors, and the public while he was establishing distribution for skin diving and other sporting goods products.

In his new capacity Forest will direct the Swimaster marketing program and will spend much of his time in the field assisting his jobbers.

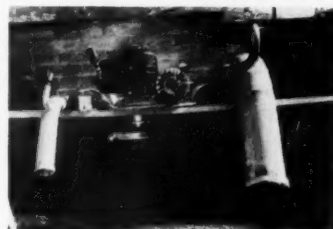
### Jess & Doris McMann

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The lightest weight, most inexpensive compact 4-cycle, six and four inch innertube-floated machine on the market.

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than any similar rig on the market.



6-inch model shown above

The 6-inch model includes an extra 3-inch sucker, 1100 x 20 innertube, enough 1 1/2-inch and 1-inch hose to reach 33 ft., 4-cycle Clinton engine, Johnson Air Compressor, an all-aluminum direct drive 1 1/2-inch self-priming pump.

Base weight pump and engine: 47 lbs.  
Complete ..... \$459.50

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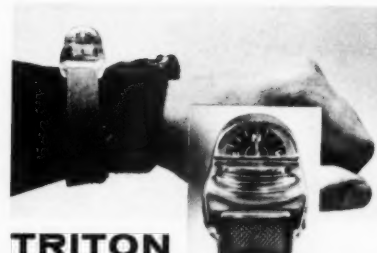


## Chilean Diving Group Officially Recognized

The Chilean government has officially recognized the Federation Chilena de Deportes Submarinos in the general directory of sports.

As the Federation is a member of C.M.A.S., they were eligible to send a team to the World Spearfishing Championship in Italy. The team competing in the world meet were winners of the 1960 Chilean Spearfishing Championship, Federico, Schaeffer, Falconeri, Munizaga, Axel Schmidt, members of La Serena Underwater Club, and Victor R. Santa Cruz. The trip was made without government financial support.

Next year with government aid to develop the sport, the Federation hopes to hold two international championships inviting all American divers to compete.



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## Packaged Boat-Lite System Meets New State Codes

A completely packaged Boat-Lite kit designed by Burgess Battery Company will meet all the requirements of new laws in 38 states for standard night running lighting systems on all small craft. This is the first year that states as well as the U. S. Coast Guard will enforce standard lighting laws for all craft operating after dark. The Burgess packaged system, retailing at \$12.70, includes a red-green bow light and white stern light mounted on an ensign staff. Both are powered by a steel-encased, super-powered 6-volt battery designed for 60 hours of intermittent operation. The self-display carton contains an illustrated explanation of boating's "Rules of the Road," as well as a summary of official Coast Guard and state regulations governing small boats. With some 7,800,000 crafts of all types on U. S. waters, the need for standard night lighting is being emphasized by boating clubs and state and Coast Guard officials.



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## Third Annual Victoria Spearfishing Competition

The Third Annual Victoria Spearfishing Competition sponsored by the Victoria Skin Divers Club, Victoria Reef Rovers, and Victoria Sea Searchers, was held on July 10, 1960. One hundred and ten divers signed in, representing clubs from Vancouver Burnaby, New Westminster, Seattle, Everett, Tacoma, and of course, Victoria.

It was a sunny day but the wind was back with us and the tide was strong. Divers who stayed around the breakwater spared themselves some weary legs at the end of the meet. Twenty-five to thirty men on paddle boards and surf mats headed for Brothies Ledge to win the Marathon and take home that trophy. Very few made it. Within twenty minutes some divers had been swept out of sight around Holland Point by the rip tide. Gary Keffler of the Puget Sound Mudsharks somehow kicked his way to the ledge in 24 minutes, 30 seconds to win the trophy, while others took one and a half hours to get there. Safety patrol boats towed divers who had been swept as far as one mile off course back to the boundary line.

The aim of many of the divers was to recover one of the Treasure Chests, one containing fifty silver dollars donated by the Chamber of Commerce and the Travel Bureau, and three others each containing twenty-five dollars. Bill Fife of the Victoria Sea Searchers found the \$50, and the other three weren't discovered, though one was in full view, if a diver had looked in the right place!

In the spearfishing event, first place team trophies were won by the Puget Sound Mudsharks, Glen Bates, Don Bates and Ken Way, with 23 lbs. 5 ozs. Second place was the Everett Sounders team of Jerry Brown, Wally Ward and Bob Baker, with 21 lbs. 9 ozs. Third place was the Burnaby Sub-Aquaters team of Bob Bishop, Harry Gier and Sandy Martell, with 18 lbs. 15 ozs.

The largest fish taken was 13 lbs. 14 ozs., winning a trophy for Bob Bishop of the Burnaby Sub-Aquaters. The Frank White Perpetual Trophy was presented to Lee McGregor of the Victoria Skin Divers Club for his 10 lbs. 14 ozs. fish, the largest taken by a Victoria diver.

The Victoria Skin Divers Club trophy for the "Diver of the Year" was presented to Dave McGregor by "Miss Victoria," Sherin Molyard. This trophy is presented to the diver achieving the most for the club and as a diver during the year.

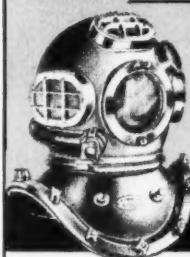
There were also special prizes for hidden weights, and the numerous prizes for Treasure Hunt tags. Every diver who brought in a tag, received a prize, so we hope that they all went home happy.

Refreshments were served to divers and families—octopus chowder, clam chowder and coffee.

**Question:** During a trip to Puerto Rico I saw what is called phosphorescence, at La Parguera. What causes this phenomenon? C. R. Besosa, Miami, Florida.

**Answer:** The phenomenon of "phosphorescence," or bioluminescence, is the emission of light by certain marine organisms. There are several animal species and bacteria which emit light. Some are microscopic in size. Others are larger, such as crustaceans of certain kinds, jelly fishes and true fishes. Some of these generate the light in highly specialized organs while others secrete some sort of luminous slime. "Sea Secrets."

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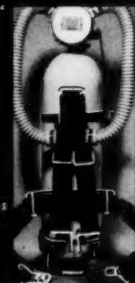
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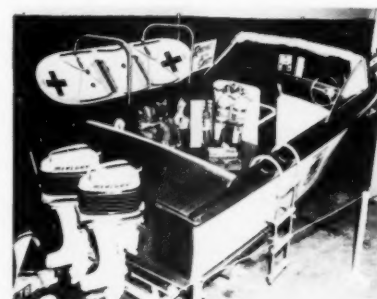
233 West 42nd Street New York 36, New York



## Ice Diving

Diving under ice can be fun but also hazardous.

It has been called to the attention of the editors of SKIN DIVER of one hazard that divers can avoid and that is the condensation that accumulates in the cylinder when chilled, upon leaving the tank through the valve and into the regulator, can form ice and possibly clog the small orifices. Of course, the outcome of this could be fatal. It is recommended that anyone who is considering a dive under ice be sure his cylinder is completely dry and free of any water. His air fill should be from a compressor with an adequate filter system and enough dehydrating chemicals to remove all water vapor from the air before entering the cylinder. In this way, the diver can be sure of a safe dive under ice from the standpoint of his equipment. Of course, any dive in cold water and under ice can be hazardous depending on the circumstances. Several divers have described their frantic efforts to find the hole in which they had entered under the ice. They had not used a safety line to guide them back.



## Sea Mac Outboard Travels Over 20,000 Miles On Land

Ordinarily, a boat does 95% of its traveling on water. But here's one—the Sea Mac, a 20' outboard powered by twin four-cylinder Mercury's—that has traveled over 20,000 miles on land! Of course, there's good reason for this: the Sea Mac is the official Safety Boat of Region 3 of the American Power Boat Association, and is trailed to every official race sponsored by the APBA.

Realizing the great need for such a safety boat during races, the Sea Mac Boat Works, in collaboration with Art Hafner, an official of the APBA, pioneered the special equipment used on the Sea Mac. Actually, the craft is a stock design constructed of 1/2"-10 ply mahogany plywood; it has a three-quarter open cockpit with navy top; 7'5" beam, shallow draft. With the twin 45 hp motors, the Sea Mac is capable of speeds up to 38 mph and, on sharp turns, the cockpit remains dry due to its exceptionally fine construction and design.

During its first official race as a Safety Boat, the Sea Mac made three assists in rescue operations. It carries a crew of three as well as 2 CO<sub>2</sub> fire extinguishers, wire stretcher basket which is raised and lowered by electrically operated davits; first aid and skin diving equipment, plus an R.C.A. 4-way ship-to-shore radio.

Between races, all equipment is maintained at the Sea Mac Boat Works, River-side, New Jersey, and will be available for boat shows. When not in use by Region 3, Fred McCarthy, President of Sea Mac Boats, will loan the Safety Boat to other Regions of the American Power Boat Association.





## Atomic Submarine

The star of what may become one of the nation's leading television serials for youngsters needs no stunt man for the many underwater scenes his role demands.

Bill Edwards, who portrays Commander Collins, the leading figure in the "Atomic Submarine" series now in production, has been a certified instructor of the Los Angeles County Underwater Program since 1955. This experience plus many years of television network announcing gives him a place as one of skin diving's most well-versed and effective spokesmen.

"Atomic Submarine," produced by Majestic Television Productions Incorporated of Hollywood, is a futuristic story of America's underwater fighting men. Much of the action takes place aboard the nuclear submarine "Dragonfish," but many other conflicts between Edwards and the "Bad Guys"

involve harbor and mid-ocean skin diving scenes.

Edwards and others of the cast and company now are hard at work filming episodes which likely will be seen throughout much of the United States by winter or spring. ➤

To add gloss to good shells you need only to rub them with baby oil and then wipe them clean. Or you may take a six-ounce bottle and fill it to the shoulder with chloroform; then add about 10 drops of neatsfoot oil and fill to the top with mineral oil. This affords a good gloss coating which will protect the shell better than any other solution. Muriatic acid cleaning may permanently ruin good shells.—Sea Secrets. ➤

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## Philadelphia YMCA to Conduct Scuba Instructor's Certification Institute

The Philadelphia Association of Physical Directors will conduct a state authorized Scuba Instructor's Certification Institute on February 18-19. Applicants for certification must be at least 18 years old, have extensive diving experience, and some teaching experience. A physician's certificate of physical fitness and endorsement by a local YMCA official will be required of each applicant.

The intensive two-day course will cover diving physics, diving medicine, instruction methods, and marine environment problems. Both written and practical examinations will be required for certification. William Fackler, Physical Director of the North Side YMCA, 1013 W. Lehigh Avenue, Philadelphia 33, Pa., will serve as Director of the Institute. He will be assisted by James Young of Washington, D.C.; John McMullin, Director of the recent Pittsburgh Institute; and Dr. Walter Kirker, SDM's Medical Consultant.

Application forms are available in most metropolitan YMCA's near Philadelphia or from Mr. Fackler.



## "Thorn McBride" New Comic Strip

"Thorn McBride" is a pictorial novel

That's how the Copley News Service describes its newest feature and its first venture into the comics field, a story dealing with nuclear submarines, oceanography, and skin diving.

The character Thorn McBride is the captain of a nuclear submarine. His co-star, Echo Sheridan, is a research scientist in the increasingly crucial field of oceanography.

This sleek young Ph.D. is no passive heroine, CNS reports. At intervals, she becomes the center of the action, leading important expeditions and going on dangerous skin diving missions.

Echo is attached to the staff of Scripps Institution of Oceanography at La Jolla—a real life school and one of the world's great ones in its field.

Its parent school, the University of California, has approved the "McBride" strip's use of the Scripps name, and Dr. Roger R. Revelle, the Scripps director, appears from time to time in the strip.

## California Holds First Freshwater Spearfishing Meets

The first two freshwater spearfishing meets in California were held recently with the East Bay Barnacles, Harry Hague, Dick Williams, Howard Strawn and John Gregory, coping first place in the open team event of the Superior, California, Rough Spearfishing Championships. The championship was held in July in the American River.

Second place team was the Panther Rod and Gun Club, third McClellan Aqua Knights, and fourth Sacramento Sea Horses and The Rejects. The EBB team took 150 lbs. 2 oz. to capture the trophy.

Big fish award went to Roger Chung of the Moby Dicks with an 11 lb. 3 oz. catch and Harry Hague of EBB won first place individual open.

Winners of other events were Mildred Clarke, women's open; James Tress, junior big fish and individual; and McClellan Aqua Knights, junior team.

In a prior meet the McClellan Aqua Knights copped the first place open team event in the Bear River Rough Fish Spearfishing Tourney held in June. Team members Charlie Gaston, Joe Turner, James Fitzgerald and James Folline took 27 lbs. 4 oz. of rough fish for the win.

Outstanding diver of the tourney was 12-year-old Mike Carty of Madera Divers who won the open big fish event with a 7 lb. 11 oz. carp. His lone fish was also good for first place in the Jr. Individual event, second in the Jr. Team event and placed him on the Madera Diver Open Team which won second place.

Second place trophy in the Open Team event went to the Madera Divers Mike Carty and Harold Carty; third place Moby Dicks Roger Chung, Richard Gaines, William Cule and Jay Wilson, fourth place Feather River Divers Chuck Voloril, Homer Dryer, Dewayne Field and Danny Montgomery and fifth place Jim Tress, Sally Thomason, Larry Smithson and Pat Mortland.

In the Women's Individual event Sally Thomason took first place and Delores Dryer second; in the Junior Individual Jim Tress came in second.

Big fish awards went to Mike Carty, first; Harold Carty, second, and Chuch Voloril, third. Individual Open winners were Harold Carty, first; Roger Chung, second; Charlie Gaston, third, and Joe Turner, fourth. Junior team winner was the Richmond Y Divers Jim Tress, John Erickson, Larry Smithson and Pat Mortland.

## Healthways Announces New Plant

Sam Aidner, president of Healthways, recently announced the completion of the company's giant new plant at Pennsauken, New Jersey. As a part of their tremendous expansion program, the plant is designed to give the best, fastest and most efficient service to Healthways increasing number of customers. The plant provides the most modern facilities for manufacturing, assembling and warehousing to meet the increased demand for Healthways products.

Located at 8000 National Highway, the new facility will be open for inspection if you are in the neighborhood.



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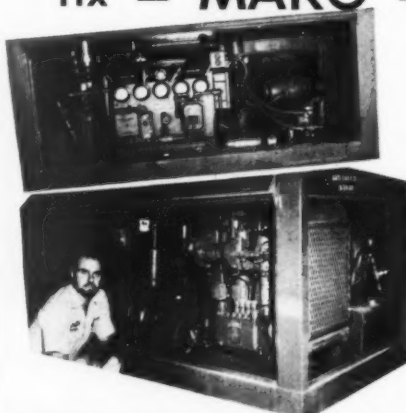
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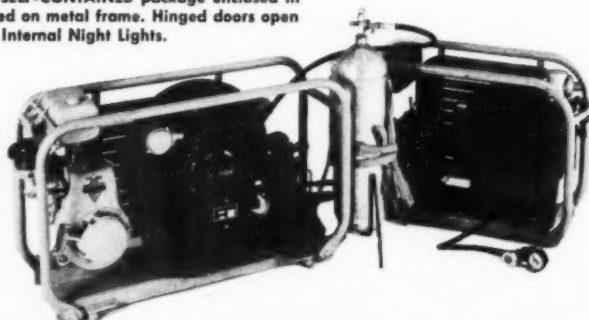
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# UNDERWATER SPORTS

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## Schooner "Wanderer" Sets Sail to South Pacific

A charter group of those interested in sailing and skin diving is now being formed for a three-and-a-half months sailing cruise to the South Pacific aboard the ninety foot schooner WANDERER, owned by Sterling Hayden.

Pitcairn Island, where skin divers may actually go down to explore the wreck of the famous Bounty, will be one of the stops. Descendants of the mutineers from this fabled ship, populate the island, which is far off the commercial shipping lanes and only infrequently visited even by inter-island trading schooners.

Mangareva is another port of call. This is reputed to be one of the most beautiful islands in the world and boasts an abundance of crystal clear lagoons, fabulous coral reefs and excellent mother-of-pearl beds.

The trip also includes visits to Tuamotus, Tahiti, Moorea, Bora Bora and Raitea.

The Captain of the cruise will be Omar Darr, whose home is in Tahiti and who has had extensive sailing experience in the Southern Pacific waters. Captain Darr says "previous sailing knowledge is not necessary and that all members of the group will have a chance to share in standing watch, trimming the sails and learning about navigation."

Those interested in becoming a member of the group may contact Captain Omar Darr, c/o Siemer & Hand Ltd., 465 California St., San Francisco, California.



## 30 Foot Monster Identified

The identity of a mysterious sea monster that blew up on the beach of a Florida key eleven years ago was recently solved.

The skeleton of the monster was carefully preserved in the front yard of Mrs. A. E. Fletcher, after she and her late husband Dr. Fletcher discovered the remains on the Gulf side of Big Pine Key in February 1949. A fishing acquaintance of the couple towed the carcass to the beach in Doctor's Arm and beached it. Over the years the carcass continued decomposing and eventually the sun left nothing but bleached bones on the sands. The Fletchers took the skeleton home and assembled it in their front yard where it still remains.

Early this spring the creature was identified by Joseph Curtis Moore, an official of the American Museum of Natural History, New York City, as a finned whale (Balaenotera Acutorostrata). Moore expressed surprise that the creature, a denizen of the North Atlantic, had been found in sub-tropical waters.

SKIN DIVER MAGAZINE

Lynwood, California

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### Just For Fun

Marine Sergeant Dave Crey and his wife, Millie of Anaheim, Calif., prepare for a dive in the El Toro Marine Corps Air Station swimming pool. The couple recently completed the El Toro Diving School and are now qualified Skin and Scuba Divers. Though the class has been given for three years and graduated more than 400 divers, the Creys were the third husband-wife team to complete the course of instructions.

### Sheepshead and Lobster Derby

The Greater Los Angeles Council of Divers Sheepshead and Lobster Derby is well underway.

Five trophies will be given in each category. The trophies will be given at the February Council meeting.

Boundries for the Derby are from Santa Barbara to the Mexican Border. You weigh your catch in at a diving shop that sells Derby tickets.

Tickets are on sale at 44 skin diving shops. These shops range from Santa Barbara to Laguna Beach and Avalon, Catalina Island to Beverly Hills. If you are not able to find Derby tickets, write to Ron Merker, 4426 W. Bolsa, Santa Ana, California, and he will let you know where the tickets are available near you.

The Derby ends on January 15th, so let's get those tickets. The price is only \$1.00

### Man-Eaters Barred

All skin divers, swimmers, water skiers, and other casual water-dippers of current generations may now breathe nervous sighs of relief. President Eisenhower, by signing a bill which prohibits importation of the piranha (and other dangerous animals) except for clearly scientific purposes, has no doubt postponed by many years at least the possible eventual establishment of these dangerous fish in U.S. waters. The pet lovers who were importing the ferocious piranha must now turn to gentler game.

Sponsoring Representative Huddleston of Alabama told the House Judiciary Committee during hearings on the measure that a school of the deadly little piranha can strip the bones of a person in a few moments. He said the fish had been imported into the United States in large numbers. Mr. Huddleston said that the fish was quite possibly "adaptable to the warmer waters of the Southeastern United States" and might enter those streams, "multiply rapidly, and shortly cause a problem of great proportions."

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Clearwater, Fla. Phone 3-3145  
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### FISHERMEN'S PIER

Underwater Wonderland of Crystal River, Fla. \$1.25  
24 hr. Rental—Sales—Instruction

### HARBOR BEACH TACKLE & MARINE

2240 S.E. 17th St., Causeway, Ft. Lauderdale  
Rentals, instructions, repairs, trips  
Soap/water lub compressor, closed Mondays

### TARPOON SALES & SKIN DIVING CENTER

925 Palm Ave., Hialeah, Florida \$1.25  
Mfr. of Tarpoon CO<sub>2</sub> Spearguns  
Retail, Wholesale, Rentals and Repairs

### LAKELAND SKIN DIVING CENTER

715 Alicia Dr., Lakeland  
Sales, service, rentals, instruction  
Phone: MU 3-4244



**LEONARD'S SPORTING GOODS**

Marathon Shores, Fla.  
Charters, instruction, rentals  
Diving equipment air station \$1.50

**MISSILE SKIN DIVING SUPPLY**

Box 756, Merritt Island (Cocoa Causeway)  
Diving Specialty Shop - Jewfish Center  
Ringside to Cape Canaveral NE 6-3077

**UNDERWATER SPORTS, INC.**

2219 Biscayne Blvd., Miami, Fla.  
Soap Lubricated Comp. Open 7 days a week  
Retail, Wholesale, Rentals & Trips \$7.5

**PALM BEACH SKIN DIVERS SUPPLY**

623 South Olive  
West Palm Beach  
Complete stock, air, rentals, repairs

**HOLLY'S SPORTING GOODS**

1235 Orange Ave., Winter Park, Fla.  
Florida's Diving Eqp. Hdqrs.,  
Twin Ingersoll-Rand Compressors Refills \$1.50

**ILLINOIS****ACE AQUA STORE**

4739 No. Broadway, Chicago  
Hours: Mon. & Thurs. 12-9;  
Tues., Wed., Fri. & Sat. 9-6 \$2.00

**AQUA HOBBY DEN**

8526 S. Racine, Chicago, Ill.  
Phone: ST 3-0130 Hours: 9-6 Mon., Fri. 9-9;  
Sat. 9-4; Air-Gas Station, Sun. 8-6

**VERN'S SCUBA CENTER**

3917 N. Ashland Ave.  
Chicago 13, Ill.  
Hours: 9-9 \$2.00

**DIVEMASTER**

5643 W. 63rd Place, Chicago 38  
Mon.-Thurs. 8-9; Tues., Wed. & Fri. 8-6;  
Saturday 9-6 \$2.00

**ERICKSON POOL SUPPLIES, INC.**

3734 N. Cicero  
Chicago, Illinois  
Hours: 9-9 Mon.-Fri.; Sat. 9-6 \$1.50

**TUCK'S WATERSPORT STORE**

4414 N. Narragansett, Chicago  
Water pumped air UN 7-9690  
7 days, Mobile Rix \$2.00

**SKEET MARINE DIVING CENTER, INC.**

Lessons, Rentals, Sales, Service  
1945 Maple Street, Evanston, Ill.  
UNiversity 9-9830. 24 hrs. Service \$2.00

**NORTHWEST AQUATICS**

3552 River Road  
Franklin Park, Illinois  
Sales, Service, Instruction, Rentals  
GL 5-4661

**DIVERS COMPRESSED AIR SERVICE & RENTALS**

400 River Rd. (U.S. 45)  
Mt. Prospect, Ill.  
Anytime but Mondays VA 4-5877  
\$1.50

**UNDERWATER SALES & SERVICE**

520 East Ogden Ave., Naperville, Ill.  
Northill Air Lung Distributors—Air Fills  
Phone: Elmwood 5-3680

**NEPTUNE DIVERS SUPPLY**

5408 W. 95th St., Oak Lawn, Ill.  
Sales, Service, Rental NE 6-0015  
Hours: 9-10 p.m.; Sun. till 3 p.m.

**INDIANA****HANSEN'S DIVERS SUPPLY**

3750 Ridge Rd., Highland, Ind.  
Rix-Water-Lubricated-Compressor  
Hrs.: 10-6; Mon., Thur., Fri. 10-9; Sun. 9-11 a.m.

**IOWA****AQUA SPORTS**

Everything for the Skin Diver  
4026 Jersey Ridge  
Davenport, Iowa \$1.50

**KENTUCKY****MARINE & DIVERS SUPPLY CO.**

755 So. Shelby, Louisville  
Hours: 9-9 7 days  
Phone: JU 7-7979, JU 3-8495

**WATER WORLD INC.**

308 W. Woodlawn Ave., Louisville  
Complete line of Scuba Gear EM 8-3028  
Service, Rentals, Instr, Salvage 10 fills \$12.00

**MAINE****DAKIN SPORTING GOODS CO.**

28 Broad St., Bangor, Maine  
Complete Skin Diving Equipment  
Refills while you wait Bangor 6411

**UNDERSEA ENTERPRISES, INC.**

69 Government St.  
Kittery, Maine  
Hours: When we are not diving \$1.25

**CONGRESS HARDWARE & PAINT (TOMMY'S)**

273 Congress St., Portland, Maine  
Complete line skin diving eqpt. SP 2-5357  
Sales, service, rentals, lessons 10 fills \$10.00

**HARVEY'S SPEED & DIVING CENTER**

473 Stevens Ave., Portland, Me.  
SPruce 2-6467/SPruce 2-5532  
24 hours service. 10 fills for \$10.00

**MARYLAND****DIVER'S DEN**

8105 Harford Road  
Baltimore 14, Maryland (Parkville)  
Open daily 9:30 a.m.-8:00 p.m. NO 8-6866  
NO 8-7382

**MASSACHUSETTS****BELMONT BOAT COMPANY**

402-404 Trapelo Rd., Belmont  
Diver Jim's Scuba Air Station  
Buy 3 air fills, get 1 free IV 4-5246  
\$1.50 ea.

**NEW ENGLAND DIVERS, INC.**

42 Water St.  
Beverly, Mass.  
7 days a week WA 2-6951  
\$1.25

**LAKEVILLE DIVER'S SUPPLY INC.**

109 Bedford St. (Rt. 18)  
Lakeville, Mass. Open 7 days  
Sales-Repairs-Rentals-Instr. Middleboro 1050-W  
\$1.50

**HIGHLAND TELEVISION CO.**

70 Main St., Melrose. Complete Eqp.  
Hours: 9-6 Mon., Tues., Sat.; 9-9 Thurs., Fri.  
Closed Wed., Sun. 5 Min. Fill \$1.00

**SO-SHO-NE, INC.**

246 Bridge St., Rt. 3A, N. Weymouth, Mass.  
Skin Diving Outfitters & Repair Station ED 7-3186  
YMCA and NEC Certified Instruction Fill \$1.00

**ANDY'S AQUA SHOP**

311 Bridge St., Salem, Mass.  
Rentals, Sales, Instruction, Trips & Repairs  
7 Day Service PI 4-8813  
Fill \$7.75

**SKIN DIVING SUPPLY CO.**

Route 6 & Main, Wareham  
Sales, Rentals, Repairs, Instruction  
Open 7 days CY 5-0285  
\$1.50

**DIVERS WORLD, INC.**

751 Main, Rt. 38, Winchester, Mass.  
Instruction—Sales—Service  
5 Minute Refills—Light Salvage \$1.50

**MICHIGAN****DAVE'S SCUBA SHOP**

3162 Packard, Ann Arbor  
EVERYTHING for the Skin Diver  
3-9 daily 9-9 Sat. and Sun. NO 3-0791  
\$1.50

**SEAWAY DIVING & EQPT. CO.**

5725 S. Telegraph Rd.  
Dearborn 9, Mich. Tested Air \$1.50  
CR 8-6750

**SPORTS OUTLET**

5279 Schaefer, Dearborn  
2280 Woodward, Ferndale  
124 W. 4th St., Royal Oak  
LU 2-1892  
LI 5-4884  
LI 3-2630

**NEPTUNE SPORTS STORE**

4222 Woodward Ave.  
Detroit, Michigan TE 1-3800  
\$1.00

**WATER SPORTS DISTRIBUTING CO.**

23322 Woodward Ave., Ferndale  
Phone LI 8-8508  
Dealer inquiries invited \$1.50

**DIVER'S DEN OF FLINT**

4505 Detroit St., Flint  
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Open 7 days SU 5-8233  
\$1.50

**DIVERS SUPPLY, INC.**

G-4142 Fenton Rd. near So. Plaza, Flint  
Tanks hydrostated  
8 a.m.-10 p.m. 7 days \$1.50

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Grand Rapids 5, Michigan RI 2-2689  
\$1.50

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3599 Orchard Lake Rd., Orchard Lake  
Complete Line of Diving Equipment FE 5-5375

**ST. CLAIR DIVERS & MARINE SALES CO.**

24530 Jefferson Ave.  
St. Clair Shores, Mich. PRescott 7-9852  
\$1.50

**J. M. SPORTING GOODS**

Everything for the Skin Diver  
1079 Fort St., AV 4-3212  
Wyandotte, Mich. \$1.50

**MINNESOTA****BRainerd SKIN DIVING SUPPLY CO.**

1302 9th Ave., N.E., Brainerd  
Phone: 829-5953  
24 hour yearly service \$1.50

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4251 Nicollet Ave., So. 24 Hr. Service  
Minneapolis 9, Minn.  
Air filtered four times \$1.50

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405 South Wabasha Street (at Concord)  
St. Paul, Minnesota  
CA 4-7155 after hours call CA 5-0645 \$1.50

**ST. CLOUD SKIN DIVER CO.**

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St. Cloud BL 2-1604  
Hours: 8 a.m.-9 p.m., Sun. 9-12 noon. \$1.50

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Table Rock, Bulls Shoals & Taneycomo  
U.S. Divers Eqp. Pure Air & Banks ED 4-5885  
\$1.50

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Wholesale & Retail  
9803 Wilson Rd., Kansas City, Mo.  
Phone: CL 4-7971 - CL 4-8500

**RAY GEORGE CO.**

3456 South Grand Blvd.  
St. Louis, Mo. PR 6-4568  
Diving Eqp.—Boats—Evinrude Motors

**NEVADA****WHAMCO DIVERS UD-10**

2009 Linden Ave., Las Vegas, Nev.  
Hours: 9-6 Air Available 24 hrs. \$1.50

**NEW HAMPSHIRE****LAKE REGION DIVERS SUPPLY HDQS.**

Weirs Blvd., Laconia, New Hampshire EN 6-4970  
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Instruction. 7 days a week year round \$1.50

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Lake Sunapee, Newbury, N. H. RO 3-5353  
One of the clearest lakes in New England.  
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3rd and Bay Avenues  
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Belmar, N. J. MU 1-0089

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356 Bloomfield Ave., Caldwell, N.J. CA 6-2986  
"In Stock—A Complete Line of  
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Route #130, Collingswood, New Jersey

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"New Jersey's Largest." Rt. #46, Denville  
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326 Bloy St., Hillside, N.J. MU 7-2777  
Complete sales, service and rentals  
Hours: Mon.-Sat. 9 a.m. till 9 p.m.



(Continued from Page 91)

**UNITY DIVERS SERVICE**  
251 Monticello Ave. \$1.50  
Jersey City HE 3-9204  
Hours: 11-9 daily, except Sun. & Wed.

**THE BOTTOM SHOP, INC.**  
229 W. Front St., Keyport, N. J.  
Hours: 10-9 daily; 9:30-6:30 Sat.; 9:30-1:30 Sun.  
Sales, Service, Repairs, Rentals

**GARDEN STATE SWIMMING POOL & SUPPLY**  
324 Main St., Madison Frontier 7-4400  
Rentals & Supplies 10 fills \$12.00  
Hours: 8-9 M-F, Sat. 9-6 July Single \$1.50

**M.B.M. DIVING SUPPLIES**  
188 Main St., Metuchen, N. J. LI 8-6841  
Refills & Supplies

**DIVERS LOCKER**  
321 Smith St. VA 6-3875  
Perth Amboy, N. J. 12 fills \$10.00  
Hours 9-9 daily Single fill \$1.00

**4 DIVERS, INC.**  
56 Broadway  
Point Pleasant Beach, N. J.  
Sales—Service—Rentals & Air

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A complete line for skin divers  
Hours 10-10  
Route 17, Rochelle Park, N.J.

**BOWCRAFT SPORT SHOP**  
Route 22, Scotch Plains, N.J.  
Hours: 9-9  
Twelve refills \$15, single refill \$1.50

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**JOHNNY K'S HOBBY CENTER**  
25-22 Steinway St., Astoria, L.I. AS 4-3610  
A complete line for Skin Divers  
Open 7 days Immediate refills \$1.00

**COUGAR SPORTS INC.**  
3470 Webster Ave. near Gunhill Rd.  
Bronx 67, N.Y. Phone TU 1-3558  
Hours: Mon.-Fri. 3-10, Sat. 9 a.m.-10 p.m.

**AQUA-LAND**  
244 Brighton Beach Ave. DEwey 2-1040  
Brooklyn, N.Y.  
Sales-Rentals-Repairs-Refills

**CENTRAL SKIN DIVING—BROOKLYN & QUEENS**  
1007 Utica Ave., Brooklyn, N.Y., DI 5-1070 \$5.00  
160-09 Jamaica Ave., Jamaica, N.Y. RE 9-5772  
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**B & B SPORTING GOODS CO., INC.**  
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Flushing 58, N.Y. \$1.00  
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**SPORT WORLD**  
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"North Shore's largest Skin Diving Center."  
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**DANZIGER**  
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Freeport, L. I., N. Y.  
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5 North Franklin Street  
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1647 Eddy Rd. Shop GL 1-3011  
Cleveland, Ohio Nights RE 1-6014  
Refills—Sales—Instructions

**THE NEWMAN STERN CO.—SOUTH GATE**  
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Cleveland, Ohio  
Everything for the Skin Diver

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1720 Old York Rd.  
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Phone OL 9-1376

**FENJOHN COMPANY**  
90 Cricket Avenue  
Ardmore, Pa. \$1.50

**GOLDSBORO BOAT HOUSE**  
Box 41, Etters, Penna.  
Hours: 9-9; Thurs. 9-2; Sun. 9-6  
Boats, Motors, Diving Equipment \$1.50

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Division of Advanced Fire Eqt. Co. Inc.  
Rt. 30 West, Greensburg, Pa.  
Phone TEmple 4-6550.

**POLLY BROS.**  
7th & Market Sts.  
Philadelphia 6, Pa. \$1.50  
Telephone Walnut 2-6565

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**POINT JUDITH FROGMEN**  
P. O. Box 563, Breakwater Village  
Point Judith, R. I. ST. 3-8096, ST 3-7184  
Equip. Rental. Hours: 7-5 daily \$1.50

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Dallas 7, Texas RI 8-2812  
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**NATIONAL WELDING SUPPLY COMPANY**  
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615 W. Belknap, Fort Worth ED 6-7145  
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5120 Kitsap Way, Bremerton ES 7-6991  
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2520 Westlake No. Seattle 9  
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**SPORTS CREEK, INC.**  
12312 E. Sprague WA 4-2330  
Opportunity (Suburban Spokane) \$1.25  
Hours 9-6, Fri. till 9, Sun. 8-9 a.m.

**OSBORN & ULLAND**  
1123 2nd Ave., Seattle, Wash.  
Hours: 9-5:30  
Mon. & Fri. till 9 p.m. \$1.25

**SEATTLE SKIN DIVING SUPPLIES**  
1657 Harbor Ave. S.W., Seattle  
Hours: 8-6 7 days a week  
Emergency phones: WE 5-5811 & WE 5-5794 \$1.25

## WISCONSIN

**BROOKFIELD SKIN DIVING SUPPLY, SCHOOL**  
270 No. Moorland Rd., Brookfield, Wis.  
Hours: Mon.-Sun. 9-9; closed Tues.  
Equipment - Rentals - Instruction Air \$2.00

**SKIN DIVERS SALES & SERVICE**  
929 S. Park St., Madison AL 6-0451  
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**SPORT DIVER CORP.**  
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Hours: Mon., Wed., Fri. 9-9  
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Kingston, Ontario  
Equipment Sales—Instruction—Demonstration

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160 King St. East EM 4-9715  
Toronto, Ont., Canada EM 4-2911  
Instruction—Rentals—Sales—Repairs \$1.50

**WESTON AQUATICS & SPORTS**  
1758 Weston Road CH 1-9139  
Weston, Ont.  
Equipment and Rentals

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Boats, Tanks, Refills, Rentals

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## Recompression Chambers Listed

Although the U. S. Navy has rendered assistance in the past to civilians who were suffering from the bends or air embolism, this may not always be the case. It is a command decision which may depend on the availability of the chamber in question; or in the case of a portable chamber, it may be located in a remote operating area at the time you need it. Moreover, you are subject to charge for treatment rendered.

If you follow the U. S. Navy diving tables and safety precautions along with the depth and time limits set forth, you should have little need for a recompression chamber.

The new U. S. Navy Diving Manual is available at a slight increase in cost, and may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

LOCATION OF  
RECOMPRESSION CHAMBERS  
UNDER CONTROL OF THE U. S.  
NAVY OR CIVILIAN ACTIVITIES  
LISTED ALPHABETICALLY  
East Coast and Atlantic

Bethesda, Maryland, Naval Medical Research Institute.  
Boston, Mass., Boston Naval Shipyard.  
Charleston, S. C., Charleston Naval Shipyard.  
Charleston, S. C., Explosive Ordnance Disposal Unit-2.  
Fort Lauderdale, Florida, Naval Ordnance Lab., Test Facility.  
Guantanamo, Cuba, Naval Station.  
Indian Head, Md., Explosive Ordnance Disposal School.  
Indian Head, Md., YSD.  
Indian Head, Md., Explosive Ordnance Disposal Tech. Center.  
Key West, Florida, Underwater Swimmers School.  
Key West, Florida, Salvage and Diving Vessels (if present) ARS, AR, ASR, AS.  
Kittery, Maine, Pier 88, Portsmouth Naval Shipyard.  
Mayport, Florida, Naval Air Station.  
New London, Conn., Submarine Base.  
New London, Conn., Sub. Force Vessels (if present) ASR, AS.  
Newport, R. I., Naval Ordnance Test Station.  
New York, N. Y., Merritt Chapman & Scott.  
Norfolk, Va., Service Force Vessels ARS, ARS-D, AR. Also ASR, AS if present.  
Portsmouth, Va., Norfolk Naval Shipyard.  
Panama City, Florida, Navy Mine Defense Lab.  
Rochester, N. Y., Buffalo University.  
Trinidad, Naval Operating Base.  
Washington, D. C., Weapons Plant, Deep Sea Diving School & Experimental Diving Unit.  
Welfare Island, N. Y., N. Y. City Metropolitan Hospital.  
Yorktown, Va., Fort Eustis Transport School.

West Coast and Pacific  
Adak, Alaska, Naval Operating Base.  
Big Pine, Inyo County, Calif., University of California, White Mt. Lab.  
Bremerton, Washington, Naval Shipyard, Puget Sound.  
Coronado, California, Sub. and Service Force Vessels (if present) ASR, ARS, ARS-D, AS, AR.  
Coronado, California, Underwater Demolition Unit-1.  
Coronado, California, North Island Naval Station.  
Eniwetok Island, Holmes & Narver Constr. Co.  
Guam, M.I. Naval Station.  
Inyokern, China Lake, Calif., Naval Ordnance Test Station.  
Kodiak, Alaska, Navy Operating Base.  
Long Beach, California, Long Beach Naval Shipyard.  
La Jolla, California, Scripps Institution of Oceanography.  
North Island, San Diego, Naval Air Station.  
Oakland, California, U. S. Coastal School of Diving 365 Broadway.  
Pearl Harbor, Explosive Ordnance Disposal Unit-1.  
Pearl Harbor, Submarine Escape Training Tank.  
Point Mugu, California, Navy Missile Test Center.  
San Diego, California, Naval Repair Facility.  
San Francisco, California, Naval Shipyard, Hunter's Point.  
San Francisco, California, Naval Station.  
Sasebo, Japan, Fleet Activities.  
Subic Bay, Philippines, Naval Base.  
Tiburon, California, U. S. Naval Net Depot.  
Vallejo, California, Mare Island Naval Shipyard.  
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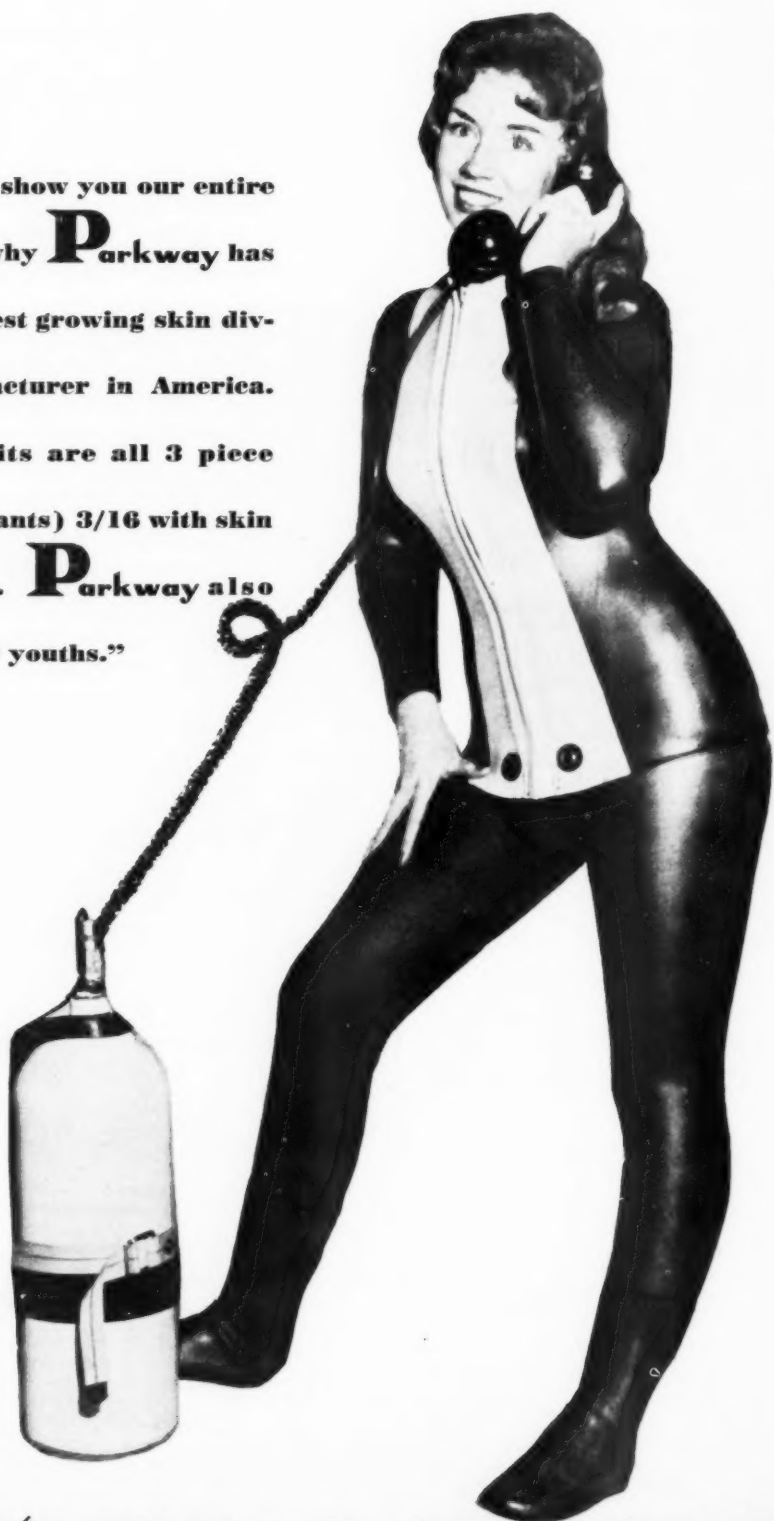
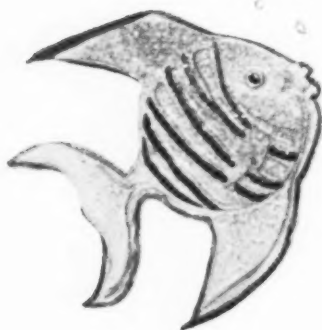
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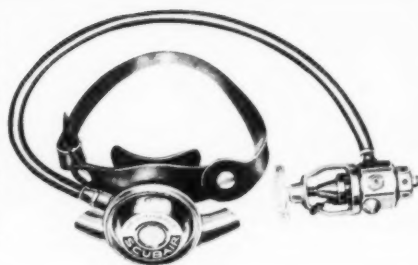


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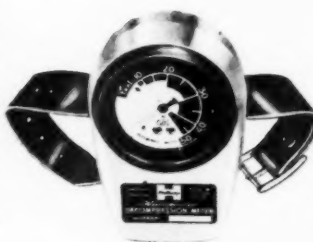
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